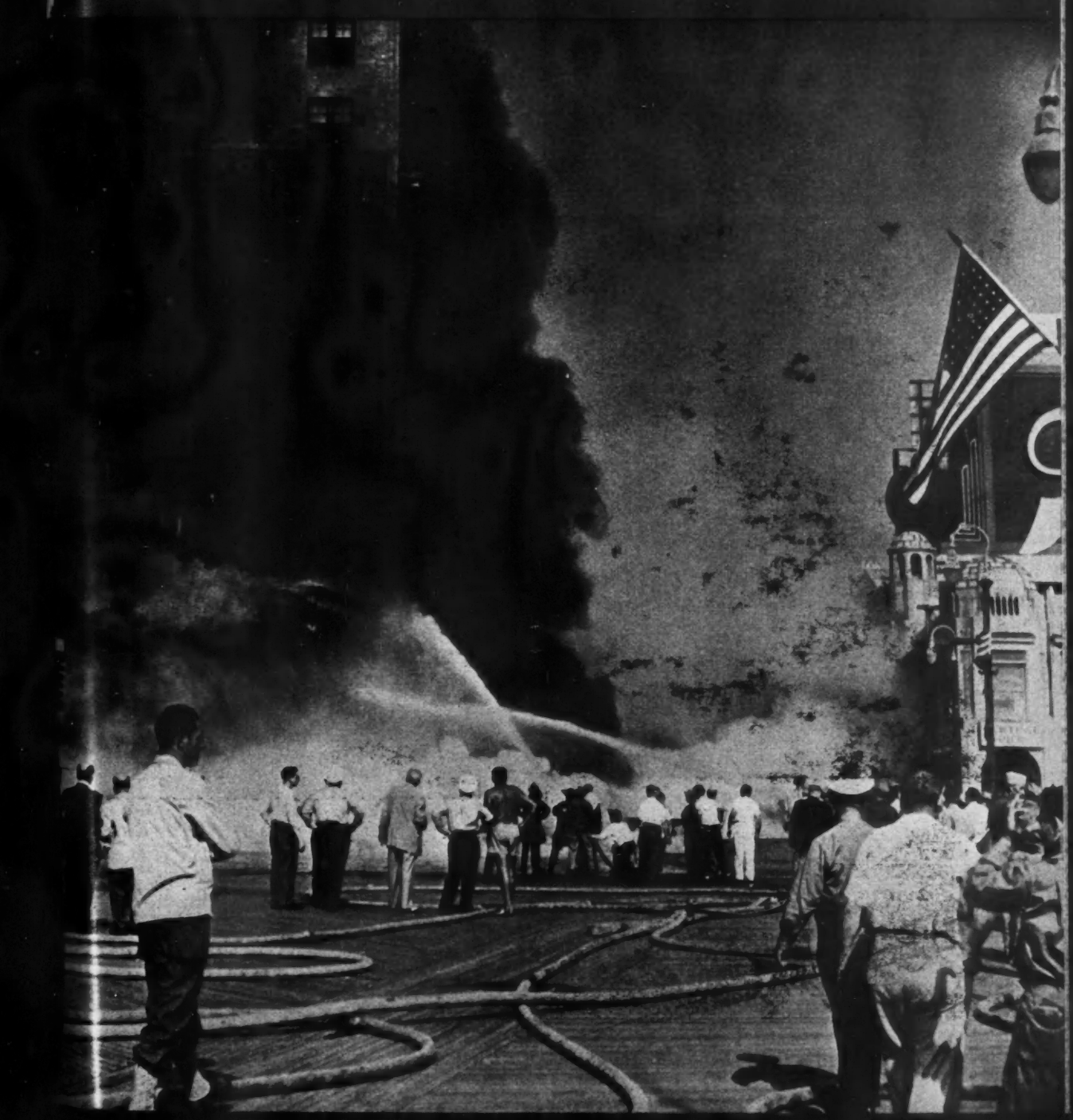
Volunteer Firemen

NOVEMBER

1944

NATIONAL FIRE PROTECTION ASSOCIATION

60 Batterymarch Street INTERNATIONAL Boston 10, Massachusetts



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A mighty mite for fire protection! *S.O.S. Fire Guard* is America's great utility fire extinguisher. Patented Safety Phlare design insures *new* pump action at all times. Free-floating piston cannot stick.

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S.O.S. Fire Guard is one of a famous family of dependable fire extinguishers quality mass produced by General Detroit since 1905. For details mail coupon today.

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Home of the world's most fascinating freaks and oddities, Barnum's Museum in New York City burned to the ground on July 13, 1865. Its occupants were removed without harm, and the press made great sport of the rescue of the monkeys, whale, bear, fat lady, and giantess. The property loss and near tragedy of this blaze did much to bring about improvement of fire fighting methods.

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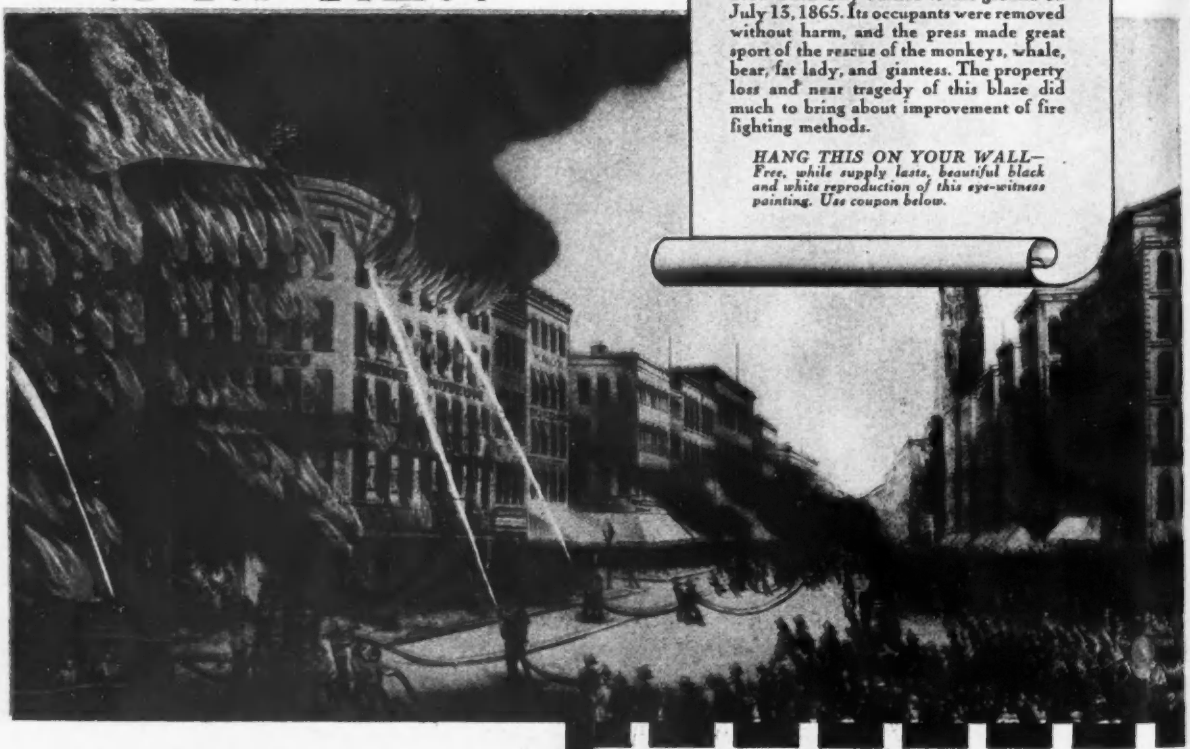

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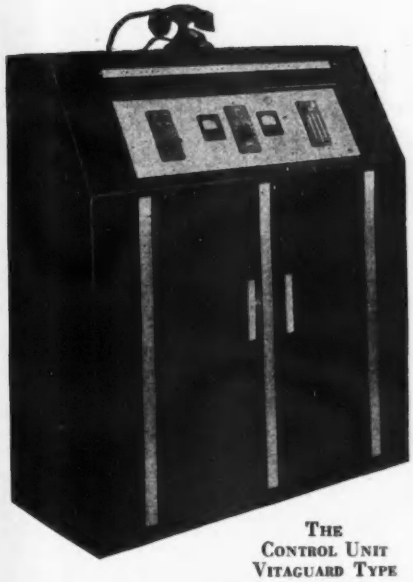
Eliminate Delay - - - Reduce Fire Losses



THE CONTROL UNIT VITAGUARD TYPE

This Unit contains all battery, operating, recording and testing equipment necessary for the operation of a system ranging from One to Forty alarm boxes. We supply complete directions for installing.

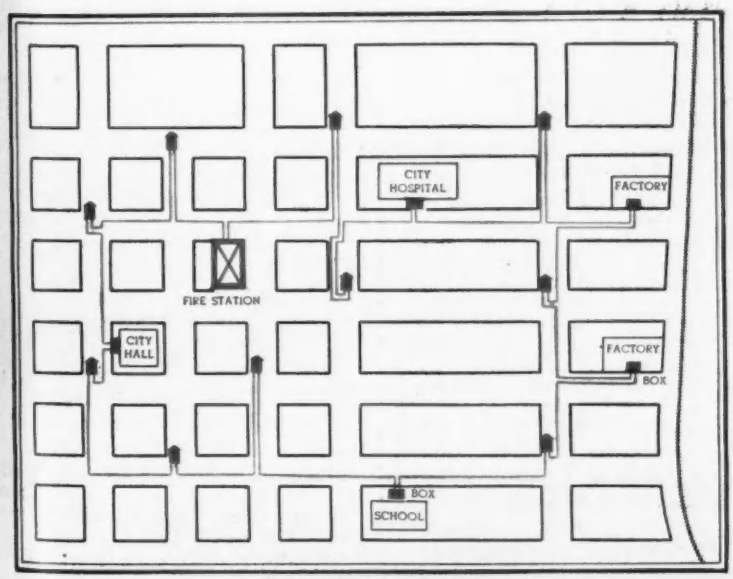
THE GAMEWELL SYSTEM for Volunteer Fire Departments provides the essential elements of accessibility, dependability and speed in giving alarms.

Public fire alarm boxes, quickly accessible, coupled with automatically responsive and coded public alarm equipment *eliminates delay by directing firemen to the scene of fire.*

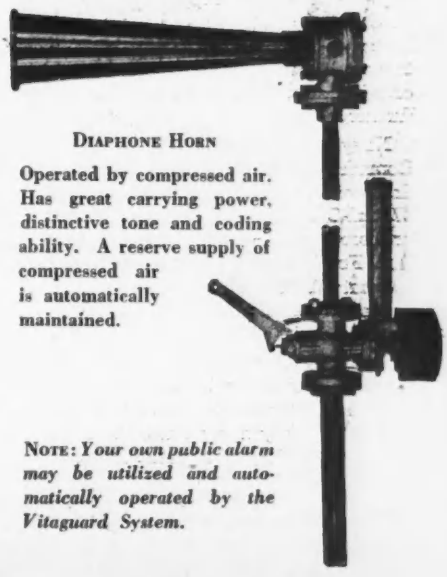
WE INVITE YOUR INQUIRY.

GAMEWELL FIRE ALARM BOX VITAGUARD TYPE

With guard panel pulled forward exposing operating lever.



TYPICAL PLAN OF SYSTEM



DIAPHONE HORN

Operated by compressed air. Has great carrying power, distinctive tone and coding ability. A reserve supply of compressed air is automatically maintained.

NOTE: *Your own public alarm may be utilized and automatically operated by the Vitaguard System.*

THE GAMEWELL COMPANY

Newton Upper Falls, Massachusetts

Flown 1,000 miles to perform the greatest fire-fighting achievement in the history of the sea . . . 150 miles off the Canadian Coast . . . Rockwood WaterFOG equipment helped eight Navy firemen subdue a fire that had been raging for 30 hours on the transport U. S. S. Wakefield (former "Manhattan"). Thus our second largest transport, seemingly doomed to certain destruction, was saved for further service.

Navy, Coast Guard, Maritime Commission and Army and hundreds of industrial plants rely on WaterFOG equipment—fixed piping or hose nozzles—to put out oil fires fast. For WaterFOG is man-made fog . . . water broken up into tiny particles by impinging streams of water from specially-designed Rockwood nozzles.

Its fire-fighting principle is simple . . . speed of heat absorption increases with surface area exposed to heat. Rockwood nozzles multiply many times the total surface area of a given volume of water, giving it capacity to cool fires faster. Furthermore, WaterFOG drifts over the liquid (instead of plunging into it), thereby retarding vaporization. Finally, it becomes steam, shutting off air. Thus, it cools, confines, starves the fire.

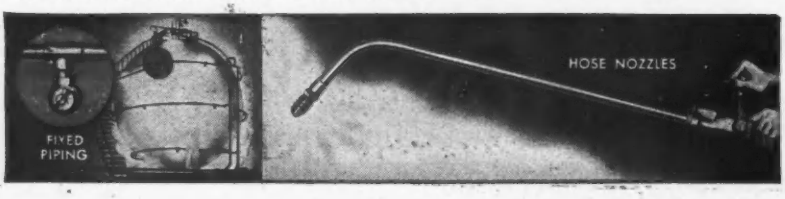
With WaterFOG, less water is needed, saving water and water damage. "Flash-back" is prevented. Electrical fires are controlled with minimum of damage. Rockwood-engineered installations are approved by Underwriters' Laboratories and Associated Factory Mutuals.

Write today for Bulletin 123.

ROCKWOOD SPRINKLER COMPANY
88 Harlow Street, Worcester 5, Mass.
Specialists in Fire Protection Engineering, Equipment and Installation since 1907

ROCKWOOD WaterFOG

Water Engineered by Rockwood Cools, Confines, Smothers Oil Fires



Oil Fire in Shell Plant Nipped by WaterFOG

Under the grating is a 4000-gallon quench tank. Shell casings leaving the hardening furnace are immersed in the oil before reaching the conveyor at the right.

When the oil in that tank caught fire, it took only 9 seconds for WaterFOG to put it out!

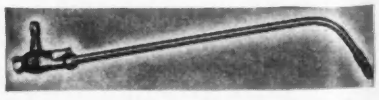
The only damage was blistered paint on wood post near the discharge end of the furnace. The quench tank was back in operation shortly after.

One of the WaterFOG heads is shown circled. It is protected by a blow-off cap. Each of the heads is connected by fixed piping to a Deluge Valve which supplies water upon the automatic detection of fire.

On this and many other oil fire hazards, a WaterFOG system of fixed piping, heads, valves, and automatic controls has proved to be the most efficient form of fire-protection. Because the spacing of heads, distance between heads and hazard, and other factors are important in determining correct particle size, fog pattern, and velocity, it is recommended that WaterFOG systems be installed by ROCKWOOD engineers (authorities on hydraulics as applied to fire protection).

Typical WaterFOG Applications
- quench and dip tanks
- paint shops
- transformers
- oil switches
- dryers
- oil storage

etc.



Portable WaterFOG Equipment for Regular Fire Hose Lines

The photograph shows Rockwood's SG-40 Nozzle equipped with extension applicator which discharges low-velocity WaterFOG in ball shape.

With the applicator removed and a FOG Tip inserted, this nozzle will discharge either high-velocity WaterFOG with considerable forward projection, or a straight stream for attacking inaccessible places or rooting out deep-seated fires.

The 1½" SG-40 Nozzle takes 4' or 10' applicator; the 2½" size takes 12' applicator.

EXECUTIVES: A colored movie (16 mm.) showing tests of Rockwood WaterFOG is available.

Volunteer Firemen

Volume 11 Number 11

Published by the National Fire Protection Association, a voluntary non-profit organization, 60 Batterymarch St., Boston 10, Mass.

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THE VOLUNTEER FIREMAN

FIRE losses in the United States during September were estimated at $31,448,000, according to figures of the National Board of Fire Underwriters. The total fire losses for the 12 months ending September 30, 1944, were $417,250,000, compared with a total of $354,385,000 for the 12 months ending a year earlier. September losses were 18.7 per cent above the losses for September, 1943.

Canadian fire losses for September were $3,250,000. In Canada the total fire loss for the first 9 months of 1944 is more than 50 per cent above last year.

LAST month in VOLUNTEER FIREMEN we described the operation of outside open sprinklers designed for exposure protection. While the October issue of the magazine was on the presses, the value of this form of protection was strikingly illustrated by a fire that occurred in a casket factory at Lincoln, Illinois.

The blaze started in an unsprinklered lumber shed of frame construction. It was discovered by a plant employee walking through the building during the afternoon. He immediately called the city fire department and then notified fellow employees. As the fire, fanned by a strong wind, spread rapidly through the building, employees immediately turned on the open sprinkler system (water curtain) protecting exposed openings in the south wall of one of the main plant buildings.

While three unsprinklered buildings were destroyed by this fire, the open sprinklers prevented the entrance of heat into the sprinklered plant so that not a single inside sprinkler head opened. Commenting on this fire, the Illinois Inspection Bureau (member N.F.P.A.) says: "This fire clearly demonstrated the value of open sprinkler protection at exposed openings. Without this protection, the fire undoubtedly would have spread to the interior of Building No. 4. The prompt action of the employees in turning on these sprinklers is to be commended."

DELAYED alarms continue to be a leading cause of big fire losses. When candidates are nominated to be recipients of a leather medal for drowsy watchmen, the firemen of Jeannette, Pennsylvania, are thinking of nominating the watchman of a laundry there which was destroyed by fire on September 14th.

According to Chief Thomas Milburn, the watchman was taking ashes from a building 40 feet distant when he discovered the fire. He went to the phone to call the fire department but the wires had already been burned off. He next ran out into the street looking for help but could not find anyone strolling about at that hour. This was at 2:25 A.M. At 3:02 A.M. a workman passing the plant on his way home saw the fire and sounded an alarm from a city fire alarm box only a block away.

When firemen arrived the flames were coming from all windows. The loss to the plant was $11,500, in addition to the destruction of much clothing.

ONE of the winter fire problems that has already begun to be troublesome, according to fire reports reaching the N.F.P.A., is the large number of fires due to spontaneous heating of bituminous (soft) coal. Many large users of coal have gotten large stocks on hand to forestall possible shortages due to wartime conditions. Much of this coal has a high sulphur content and heats quite readily unless care is taken to insure proper storage, avoiding air pockets that may favor heating and burning.

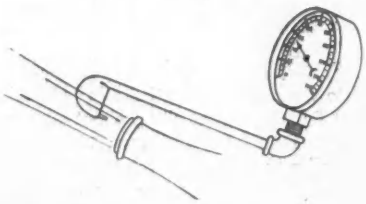
Where feasible, coal should not be stored where air temperatures or surfaces of the storage places are above 75 or 80 degrees F. When any part of the coal pile reaches 140 degrees F. the heating is likely to continue until the ignition point of around 450 degrees is reached. Coal storage should be deposited in layers rather than in conical piles which form air spaces. Alternate wetting and drying of the coal should be avoided. Also hazardous are standing timbers, pipes and columns which tend to form ducts or flues inducing sluggish air currents bringing sufficient oxygen to cause heating but not enough air flow to carry off the heat.

If a large volume of coal inside of a building becomes involved in a fire it is best to have coal handlers called to remove the fuel. Where possible the use of hose streams should be avoided because although the fire can be extinguished it reignites much more readily after having been soaked in this manner.

Suggestions as to the proper storage of coal and the prevention of spontaneous heating and ignition are contained in the N.F.P.A. publication "Spontaneous Heating and Ignition of Coal and Other Mining Products." This publication, prepared by the N.F.P.A. Committee on Spontaneous Heating and Ignition, is available for distribution at 10 cents a copy.

THE cover picture this month (*Acme photo*) shows a big fire on the Atlantic City boardwalk on September 6th. For a more detailed account of this spectacular fire see page 24.

Where Did That Pressure Go?



MISSOURI always has been known as the "show-me" state, but in fire service matters that honor and distinction of late years has gone to the sister state of Oklahoma.

As is well known, the Oklahoma Fire College has a lot of "firsts" to its credit. Those boys don't just accept anything as a fact because it's in the book — they want to know the reason why a thing is so.

Thus when they taught fire stream calculations and friction loss at the Fire College at Stillwater this past summer, they proved the theories and commonly accepted formulas with a unique series of experimental fire streams checked and observed by pressure gauges installed at each connection from the hydrant, through the pump, along the hose, to the nozzle.

When the Oklahoma fire school talked about "friction loss," every man could see just where the pressure was used up. This ingenious course of instruction was under the direction of George Orgain, State Fire Instructor, who had the co-operation of Chief J. Ray Pence and other members of the Stillwater Fire Department. Some of the interesting experiments they carried out are described below. Others will be included in future issues of VOLUNTEER FIREMEN.

THESE experiments were in no wise designed to check the complicated mathematical type of formulas used in the calculations of waterworks men and hydraulic engineers. Rather they were aimed at testing the rule of thumb type of formula used by firemen on the fire ground. Specifically, many of the tests concerned variations of friction loss in hose supplying a stream at 50 pounds nozzle pressure through various sizes of nozzles on a 2½-inch line. These experiments were known at the school as "Tests of Rule A".

Another series of experiments known as "Tests of Rule B" were made to determine the truth of the rule that friction loss in each 100 feet of 2½-inch hose equals 1/12th nozzle pressure with a ¾-inch tip, 1/5th N.P. with a 1-inch tip, and ⅓rd N.P. with a 1⅛-inch tip.

These were typical of numerous other fact-finding experiments. It will be noted that in a few cases the pressure readings at a gauge will appear to be a pound or two out of line. This may be due to sight errors in reading but in no case affected the results.

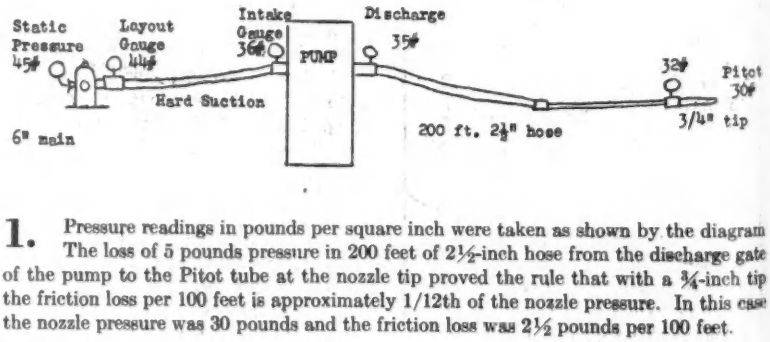
(*Above*) Stillwater, Okla. Attendance at the Eleventh Annual Fire Service Short Course, July 17th to August 2nd, at No. 2 Fire Station, Oklahoma A. & M. College.

Front Row, left to right. Chief Joseph T. Deichman, U. S. Naval Air Station, Shawnee; Chief Lothar A. Smith, Edmond; Chief E. G. Thomas, Prisoner War Camp, Tonkawa; Chief Yale L. Taplin, Army Air Field, Muskogee; Capt. Jack Harper, City Frederick; Capt. Hardin Fletcher, City Muskogee; and Capt. Max Thomas, City Stillwater.

Center. Chief J. Ray Pence, City Stillwater; Instructor-Inspector Luther P. Waddle, 8th Service Command, Dallas, Texas; Chief P. Hardin White, Altus Army Air Base, Altus; Field Instructor George Orgain, Stillwater; Asst. Chief Herbert T. Henderson, City Cushing; Driver Bob Courtney, City Stillwater; Asst. Chief James T. King, Camp Gruber, Muskogee; Chief John H. Moore, Ardmorg Army Air Base, Ardmore; and Instructor Glenn Smith, Voc. T. & Educ., Stillwater.

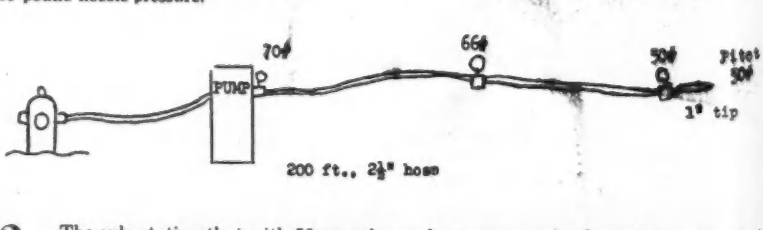
Back Row. Asst. Chief J. W. Holbrook, War Dept., McAlister; Asst. Chief Don K. Thomas, City Stillwater; Asst. Chief Robert D. Crutcher, Fort Sill; Asst. Chief P. B. Ware, Will Rogers Air Base, Oklahoma City; Capt. L. L. Randall, Douglas Air Craft, Tulsa; Chief Thomas H. Kirby, Borden Hospital, Chickasha; Chief Owen N. Rider, Woodward Army Air Base, Woodward; Pri. Joe Danford, City Stillwater; Capt. W. E. Mott, War Dept. Hospital, Okmulgee; and Chief James L. Anderson, Prisoner War Camp, Alva.

1. Problem: To locate where friction loss is taking place in hose layout.



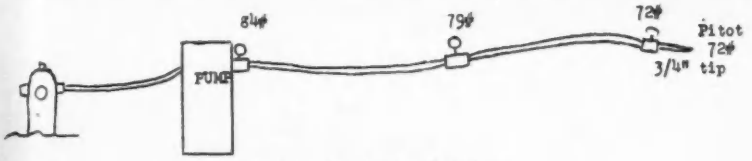
1. Pressure readings in pounds per square inch were taken as shown by the diagram. The loss of 5 pounds pressure in 200 feet of 2½-inch hose from the discharge gate of the pump to the Pitot tube at the nozzle tip proved the rule that with a ¾-inch tip the friction loss per 100 feet is approximately 1/12th of the nozzle pressure. In this case the nozzle pressure was 30 pounds and the friction loss was 2½ pounds per 100 feet.

2. Problem: To test the rule of thumb calculations for friction loss with streams discharging at 50-pound nozzle pressure.



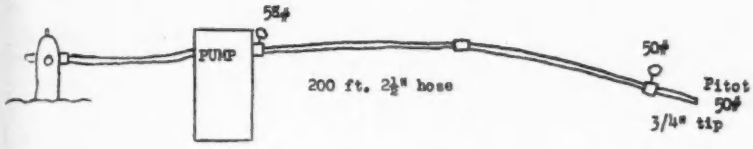
2. The rule stating that with 50 pounds nozzle pressure and a ¾-inch tip, there is 4 pounds friction loss per 100 feet of 2½-inch hose, was found to be correct.

3. **Problem: To further test the fractional method of estimating friction loss designated as Rule B. With a ¾-inch tip the friction loss per 100 feet should be 1/12th of the nozzle pressure.**



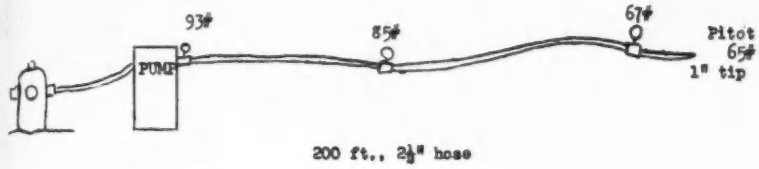
3. This evolution proved the rule to be true because with 72 pounds nozzle pressure there was an average of 6 pounds friction loss per 100 feet of hose. Six is 1/12th of 72. Incidentally, this evolution also showed that Rule A is true only at 50 pounds nozzle pressure. Rule A states that with a ¾-inch nozzle friction loss is 4 pounds per 100 feet.

4. **Problem: To test the accuracy of Rules A and B when using a 1-inch nozzle tip.**



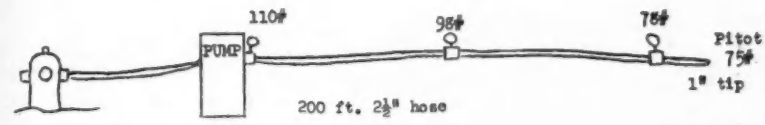
4. Both rules were found to be correct for a 1-inch nozzle at 50 pounds nozzle pressure. Rule A, that with a 1-inch nozzle at 50 pounds the friction loss is 10 pounds per 100 feet of 2½-inch hose was confirmed. Rule B, that with a 1-inch tip the friction loss is 1/5th of the nozzle pressure also held true.

5. **Problem: Testing both rules A and B for 1-inch nozzle tip.**



5. The nozzle pressure employed was 65 pounds. Friction loss was found to exceed the 10 pounds per 100 feet called for under Rule A which indicates that at 50 pounds nozzle pressure there will be 10 pounds friction loss per 100 feet when using a 1-inch nozzle. This shows that as nozzle pressures increase the friction losses also increase. Rule B was found to be approximately correct even at this higher nozzle pressure. Under Rule B the friction loss per 100 feet should be 1/5th of the nozzle pressure when using a 1-inch nozzle. A fifth of the 65-pound nozzle pressure would be 13 pounds per 100 feet. The actual friction loss was 1 pound per 100 feet greater than this. This slight increase could be accounted for by variations in the hose or even the height of the nozzle above the ground. Thus the rule is considered as accurate enough for fire service use.

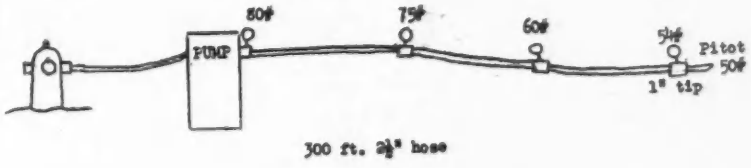
6. **Problem: Testing Rule B at a higher pressure.**



6. With nozzle pressure of 75 pounds through a 1-inch tip the friction loss, according to Rule B, should be 1/5th of 75 or 15 pounds per 100 feet of hose. Actually readings showed a friction loss of 17½ pounds per 100 feet of hose. This increased friction loss was not important enough to effect the working of a fire stream.

7. With a 1-inch tip and 50 pounds nozzle pressure the friction loss remained 10 pounds per 100 feet of 2½-inch hose proving Rule A to be true. Rule B calls for loss of 1/5th of the nozzle pressure per 100 feet when using a 1-inch tip. The loss of 10 pounds per 100 feet of 2½-inch hose proved Rule B to be true on this longer line. Engine pressure was 80 pounds.

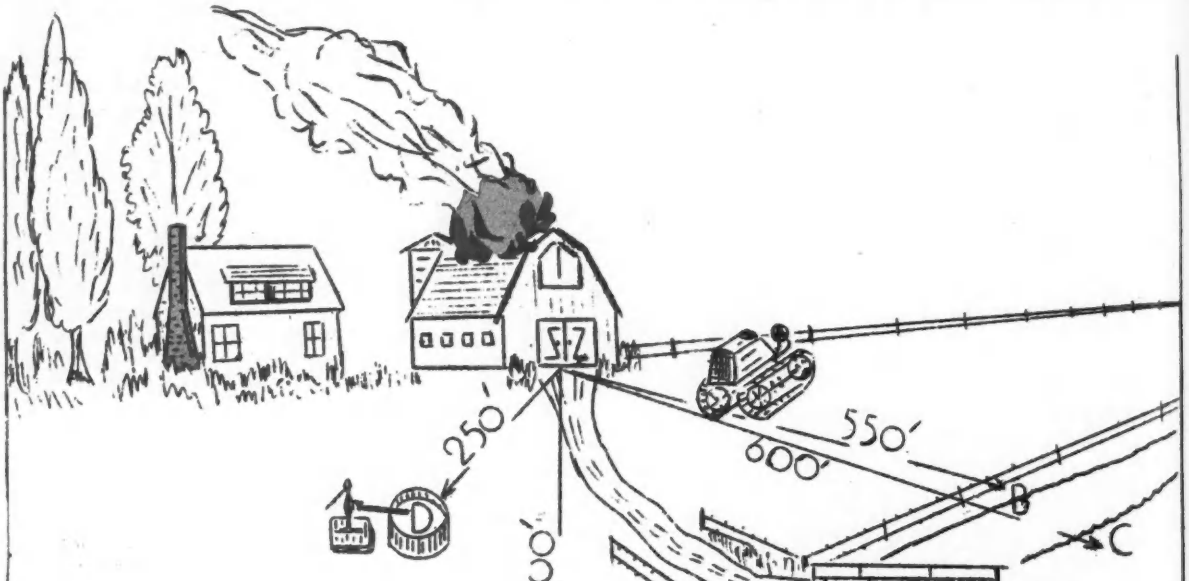
7. **Problem: Testing the accuracy of Rules A and B when the line is increased in length. Will the rules work as well on longer lines as they did on 200-foot lines? Test made with line lengthened to 300 feet.**



8. It was observed that the line had a tendency to straighten out. When the loop was removed just behind the nozzle the gauge showed 66 pounds but there were no noticeable changes on any other gauges. It was concluded that loops in the line do not reduce nozzle pressure or increase engine pressure, therefore friction loss is not increased. Rule B also held true in that friction loss per 100 feet remained 1/5th of the nozzle pressure through a 1-inch nozzle.

8. **Problem: To see if bends in the hose increase the friction loss and again test Rule B. This test was run with 300 feet of line discharging at 65 pounds nozzle pressure.**

HOW WOULD YOU FIGHT THIS RURAL FIRE?



CONDITIONS:

A. Point 500 ft. from fire.
B. Point 550 ft. from fire.
C. Point 600 ft. from fire.
D. 100 gallon water tank, 250 ft. from fire.
Width of creek, 12 ft.
Depth of creek, 10 inches.
Bad fire in barn, house endangered

INDICATE PROPER STEPS AND ORDER OF ATTACK.

(See page 25 for Solution)

EQUIPMENT:

500 GPM triple combination pumper.
250 gallon booster tank.
200 ft. of booster hose.
200 ft. 1½-inch hose, ⅛-inch tips.
1000 ft. 2½-inch hose, 1 inch tips.
24-ft. extension ladder.
12-ft. roof ladder.
14 x 18 ft. salvage cover.
Small tools, 2½ x 1½ x 1½ wye, double male, double female.
Accessories.

ONE of the most interesting monthly firemen's bulletins published in any state is the *Indiana Fire Service Training School Bulletin* edited by Robert F. Hamm and Francis A. Hartman, Indiana fire service instructors. In addition to important fire service news and training information, the Bulletin contains some interesting fire fighting problems for small fire departments. These are based upon actual fire situations. Readers of the Bulletin are encouraged to send in their own answers telling how these typical fires should be fought.

We present here a rural fire problem given in the September issue of the Bulletin. Like most rural fires there just isn't any one easy answer as to what would be the best method of fighting this fire. It is necessary to make a fairly quick size-up and go to work with the equipment at hand. This might not look like a major problem to some big city firemen who would expect to sound a second or third alarm on a job like this to get all the help they could use, but when you start to figure this thing out for yourself there are a lot of "ifs, ands, and buts" that could change the outcome in an actual fire of this nature.

When rolling in to a job of this sort the first problem will be one of size-up. Presumably the local fire department is already somewhat familiar with this farm property as it is on home territory.

Some details that may be noticed at the first size-up are that the fire has good headway and the wind is blowing toward the house. A quick glance will show that while the fire has a good headway it appears to be primarily a roof fire and has not as yet involved either the silo or hay loft. This makes the fire fighting job somewhat simpler as there is a chance of knocking down the fire before it gains much headway inside. One important factor would be whether the hay crop had been brought into the loft, because once fire involves a hay loft it is almost impossible to extinguish it without huge quantities of water. It will be noted that the doors to the barn and hay loft appear to be closed. This should help to retard the fire inside until fire streams are ready.

The next question is what water supply can the fire department utilize most effectively and with the least delay. They have a choice of the 250 gallon booster tank on the apparatus, a 100 gallon farm stock tank supplied by manual pump, or of laying one or more long lines to the shallow creek and taking suction with the pumper. This brings us to the old question of rural fire fighting which is whether to do what we can with booster or chemical lines or take the time needed to lay out the

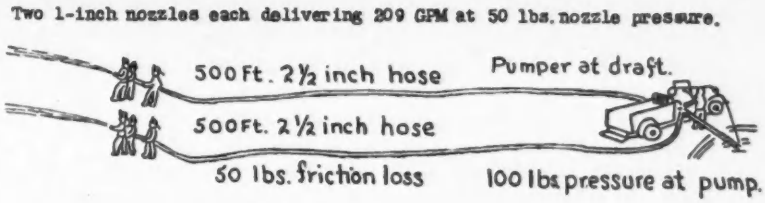
big line. In making this decision it is kept in mind that the rural fire department should be able to protect exposures against serious damage even if unable to extinguish the main fire, although every effort will be made to accomplish both objectives.

THE fire department's first thought will be whether or not this fire can be controlled by the prompt use of the booster line. Many departments have seen some very serious rural fires knocked down by booster equipment. The problem in this type of fire is in deciding whether the fire can be controlled with a booster line or whether it can be allowed to spread while time is taken to lay long 2½-inch lines and arrange for pumper suction.

If it is decided that the booster equipment is not adequate for the job the questions arises what is the nearest supplemental water supply and is it adequate. There is a manual pump and small stock tank within 250 feet of the fire but this does not bring the fire within reach of the booster hose and the supply is too small to guarantee a continuous feed to the booster line. It would be used only if no better supply was available and would chiefly be of value in protecting exposures. If the fire could have been fought in an incipient stage and if the wind had been in another direction to minimize the exposure danger, the fire might have been fought with the 250 gallon booster tank supplemented by the stock tank.

A larger stock tank at the same location would have permitted the pumper to take suction and supply a 200 foot line of 2½-inch hose feeding two 1½-inch lines. However, such a layout would normally require 100 gallons per minute and even with the best conservation of water at the nozzles or use of small tips the supply might be exhausted before the fire could be checked. Once a layout has been made and the pumper set in operation much valuable time would be lost if it became necessary to lay new lines to the creek and set the pumper in operation at a new location.

Obviously, the most reliable water supply within reach is the shallow creek some 500 feet away. The flames in the barn appear to still be in a stage that could be controlled by 2½-inch lines if they are quickly available. However, it takes time to lay lines from 500 to 600 feet and take water from suction. There is considerable lift from the bridge that will necessitate the use of two lengths of suction and may reduce the output of the pump if large enough suction hose is not available. A wire fence hinders the approach to the creek at other points on the near side to the fire. The creek is shallow and will make it difficult to take suction unless a dam or suction basin is constructed with the fire department ladders and salvage covers. If the pumper is placed on the bank across the stream there will only be enough hose for one 2½-inch line whereas it might be desirable to use two 500 foot


Two 1-inch nozzles each delivering 209 GPM at 50 lbs. nozzle pressure.
500 Ft. 2½ inch hose
Pumper at draft.
500 Ft. 2½ inch hose
50 lbs. friction loss
100 lbs pressure at pump.

lines so as to be able to fight the fire and protect exposures simultaneously if sufficient water is available.

The problem states that the creek is 12 feet wide and 10 inches deep at the greatest depth. This gives a vertical flow area of only 5 square feet. There are 7½ gallons to the cubic foot and thus the stream would have to flow at a velocity of about 11 feet per minute, or a foot in 5 seconds to supply the 400 gallons per minute needed by two 1-inch nozzle tips. Except during spring run-off seasons, or immediately following a heavy shower, such a flow would be unlikely in a brook of this size. If there did happen to be an unusual flow in the stream, as in a mountain brook, the problem of water turbulence would make difficult the job of lifting water by suction due to the likelihood of getting air in the suction line.

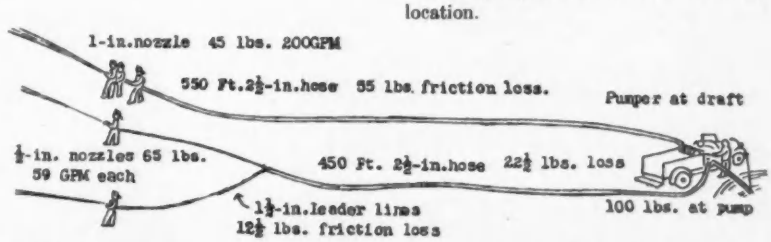
OF COURSE, if a suitable suction basin had been constructed in advance for fire department use as has been done in many rural areas, then a stream of this size might be adequate to keep the suction basin sufficiently full during the critical stages of a fire to permit the use of two lines at least part of the time. In any event it would be desirable to increase the amount of water impounded and depth of water at the point of suction by means of an emergency dam.

While it would be possible for a 500-gallon pumper to supply two 500-foot lines of 2½-inch hose if water was available, it is stated that only 1,000 feet of 2½-inch hose is carried on the apparatus. This allows nothing for replacing sections of the long lines that may burst, or for extending the lines to reach areas difficult of access. We can recall one rural fire where the entire load of hose would just reach the door but did not provide enough line to get inside the room where the fire was located.

There are other considerations besides the possible shortage of water and hose that might weigh against the use of two 2½-inch lines in this case, even though two streams might be needed to provide one for the inside of the barn and one for the protection of exposures. Few rural fire trucks have the divided hose bodies needed for laying two lines simultaneously. Frequently, during the early stages of a fire, the crews on rural pumpers are too small to handle two lines. However, dual lines could be laid out in the following manner. The first line could be laid out from the creek when approaching the fire. It might be left dry while an initial attempt was made to slow down the fire with the 250 gallon booster tank, particularly if the booster tank was arranged to supply 1½-inch hose. The second 2½-inch line would be a reverse line laid back to the creek. Such an operation would require a crew well trained in the use of reverse couplings. It would also be necessary to make sure that the first 2-inch line did not have more than one half of the hose load or the other line would be 100 feet short. This latter fact might not be too serious because the short line could be extended by use of two lines of 1½-inch hose.

A number of other points could be brought out regarding this fire. There is a farm tractor available to pull the fire apparatus out if it should get mired near the creek or stock tank.

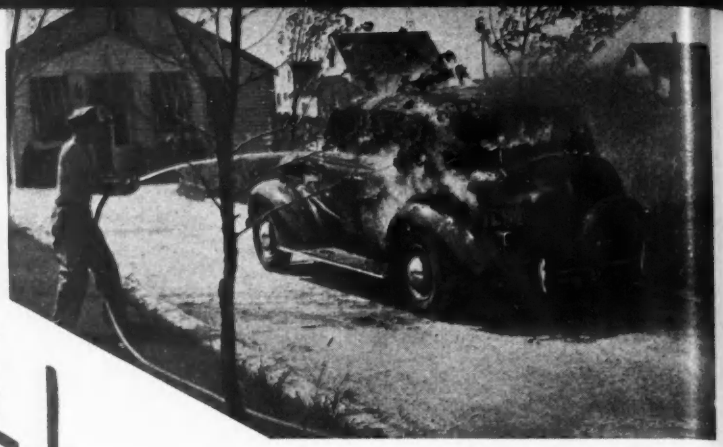
This sort of fire situation is making thousands of rural fire departments appreciate the importance of having at least two pieces of apparatus at each rural fire. A booster tank unit carrying a few ladders would prevent the further spread of the fire while pumper lines are being laid out. If the booster tank equipment is arranged to supply 1½-inch lines, so much the better. Also, having one piece of equipment near the fire makes it possible to get tools needed without carrying them from the pumper at a creek or some distant location.


1-in. nozzle 45 lbs. 200GPM
550 Ft. 2½-in. hose 55 lbs. friction loss.
Pumper at draft
½-in. nozzles 65 lbs.
59 GPM each
450 Ft. 2½-in. hose 22½ lbs. loss
1½-in. leader lines
12½ lbs. friction loss
100 lbs. at pump

If 1½-inch leader lines are used, the pressure at the pumper should be kept down to not over 100 pounds. The comparatively small combined flow from the two ½-inch nozzles would not cause much friction loss and excessive nozzle pressures would result without appreciably increasing the flow through the ½-inch nozzles. The exception would be where high elevations call for greater pressure.

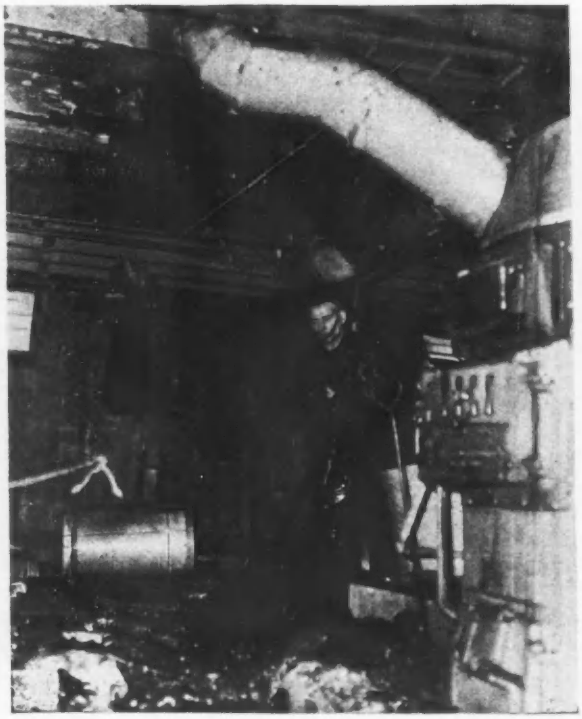
All pictures on these two pages taken near Hammond, Ind., by news photographer Herbert McLaughlin. *Mercury Pictures.*

Run of the Mill Fires



American firemen fought 59,700 automobile fires last year. These fires caused nearly $6,000,000 loss. Shown above is a typical automobile fire caused by a short circuit, which was fought by Lansing, Ind., Volunteer Fire Department

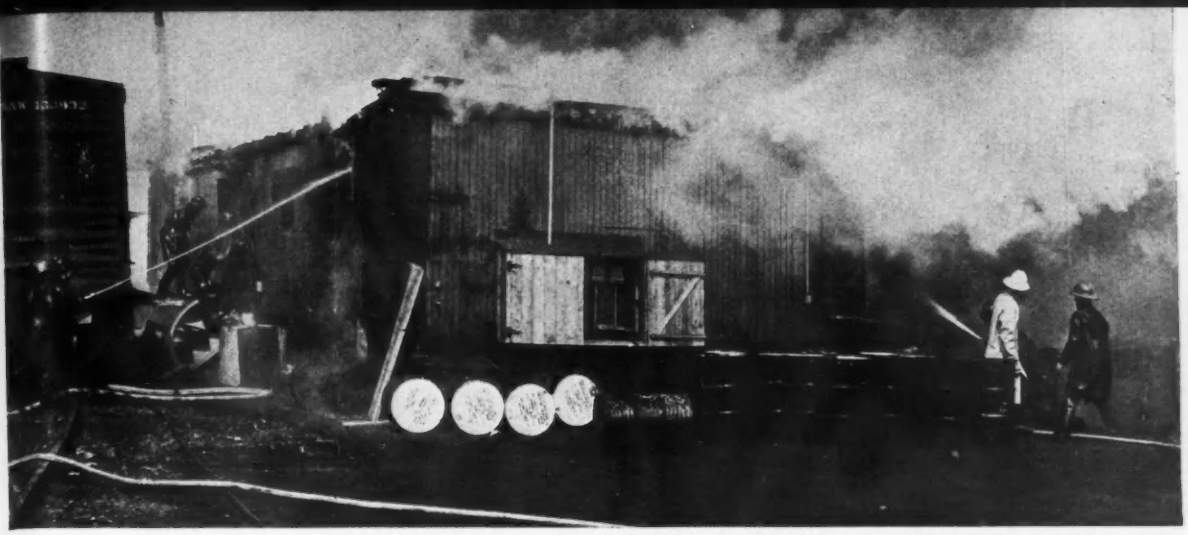
So much publicity is given to the large fires and conflagrations that destroy blocks of business buildings and notable structures that the important fact is often overlooked that such major fires occur rarely in the experience of the average volunteer fire department. While every fireman must be prepared for the worst fire emergency that may occur in his own territory, it is of equal importance to be ready for the everyday fire that he can reasonably expect in his home town. It is these thousands of routine fires that take 10,000 lives yearly and destroy property values of more than $400,000,000 in the United States and $31,000,000 in Canada.



This fire, in Hammond, Ind., is typical of thousands that will occur throughout the country this winter. The occupants went away, leaving the furnace draft open. The hot air pipe to the living room overheated and set the floor afire. While the area around the pipe was deeply charred, the fact that the house was closed retarded combustion, and the firemen were able to confine the damage to a small area.

The truck driver and his helper were killed when their truck ran into another truck and burst into flames. The gasoline tanks exploded, enveloping the cab in which both men were trapped. One of the trucks carried war materials.

27,000 fires in garages and filling stations caused losses totaling $7,000,000 last year. This fire occurred at Schererville, Ind. The local fire chief is shown wetting down the ruins as flames spread toward property in the background.



There were some 72,000 fires in storehouses and warehouse buildings last year. Many of the storage buildings were no more substantial than these built of discarded railroad box cars. A rope treating plant of a chemical company also was destroyed in this fire adjacent to freight yards in Hammond, Ind.

Volunteer fire departments look forward to a number of fires in chicken and brooder houses during the coming winter. An overheated stove in the coop caused this fire which spread to the house and garage despite the efforts of the Schererville and Dyer fire departments. 20,000 such fires caused $5,600,000 loss in farm houses and out buildings last year.

Firemen of Calumet City, Ind., spent two hours fighting this barn fire in which three firemen were seriously burned. As may be seen, the barn was destroyed. Next to fires in dwellings and mercantile properties, 24,500 barn fires last year caused the highest loss, totaling $23,000,000

Fires in isolated dwellings wipe out thousands of lives each year. A family of five died when flames destroyed this small cottage at Crown Point, Ind., before the arrival of firemen. Almost every day throughout the winter, newspapers carry announcements of such conflagrations. 330,000 dwellings last year were destroyed by fire due to common hazards. It is difficult to realize the frequency of such fires until they strike home.

The Dalles, Oregon Fights Big Lumber Fire

Reported by Chief Charles Roth, Jr.

ALMOST every small community has congested sections that present the likelihood of a major fire when conditions are favorable. While in the experience of the average community such big fires are an infrequent occurrence, the local fire department must stand ever-ready to throw its full resources into the battle should a blaze get started in one of these high hazard danger spots.

Such a blaze tried the resources of the fire department of The Dalles, Oregon, when fire broke out, or was started in, the large warehouse of the Tum a Lum Lumber Company. The blaze occurred on a hot, dry Sunday afternoon while a 24 m.p.h. wind was blowing. The lumber yard and warehouse are located in a congested business area which includes a number of frame buildings and other structures without protection against exposure fires.

As shown by the diagram of fire fighting operations below, the Dalles firemen threw everything they could muster at the fire including a 3-way deluge set, 2½-inch lines with 1¼-inch tips, 1½-inch lines, and both 1-inch and ¾-inch booster hose. Inadequate water mains prevented one of the pumpers from developing its full capacity and made the deluge set ineffective.

Looking east toward The Dalles Soda Works plant. The burning lumber building is blazing in the background. Failure to complete a firewall begun several years ago between the two buildings was responsible for extensive damage to this exposure.

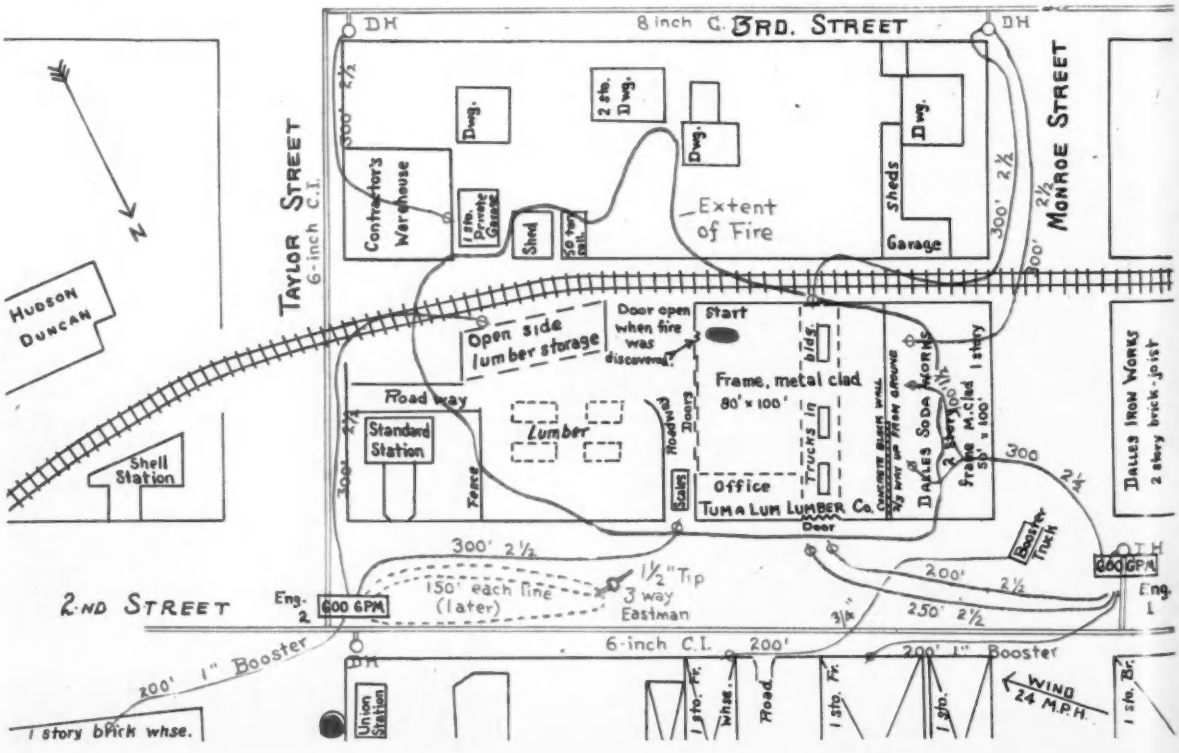
The fire was discovered when a police officer in a prowl car noticed smoke and investigated. The fire was burning at that time in a small area just inside a large service door at the southeast end of the building. This door is known to have been locked when the yard shut down on Saturday afternoon, but was found open when the fire was discovered.

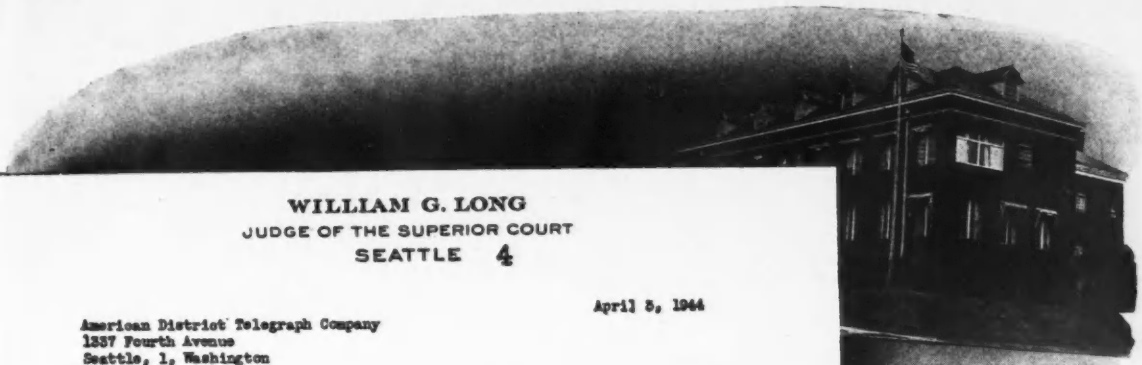
The policeman returned to his car and reported the fire to police headquarters by two-way radio. The police notified the fire department and there was some delay while the address was confirmed. The nearby fire alarm box was not used.

Fire department response consisted of two 600 G.P.M. pumpers, a hose truck, and two booster outfits. The first smoke emanating from the building was peculiarly black and heavy, a fact not accounted for by the materials stored in the part of the building where the fire started.

Although it was impossible to stand directly in front of the wind-driven flames, the department closed in on the fire as shown in the diagram below, and succeeded in confining most of the damage to the lumber yard property, although several storage sheds across the railroad siding were destroyed.

The most serious exposure damage was to The Dalles Soda Works which was separated from the lumber company warehouse only by a combustible partition. Several years ago the owners of the Soda Works started to build a fire partition against this exposure. The wall was never finished. Had they completed the wall and provided it with a standard parapet above the roof, there is no doubt that the





KING COUNTY
JUVENILE DETENTION HOME
SEATTLE, WASH.

WILLIAM G. LONG
JUDGE OF THE SUPERIOR COURT
SEATTLE 4

April 8, 1944

American District Telegraph Company
1337 Fourth Avenue
Seattle, 1, Washington

Gentlemen:

With reference to your report on the fire occurring in the King County Juvenile Detention Home on March 3, I wish to express my heartfelt appreciation for the service which your Aero Automatic Fire Alarm system rendered.

In this detention home there is an average population of between twenty-five to thirty-five boys and girls ranging in age from infants to eighteen years.

Doors, windows and fire escapes are necessarily always locked in order to prevent escapes. This, of course, creates a potentially hazardous situation in case of fire and has been a constant source of worry and concern to me, because I am officially responsible for the safety of every child being detained.

The possibilities of panic in a fire have continually haunted me until we had an actual demonstration as to what your equipment actually does in time of emergency.

The fire was incendiary, having been planned and executed by some boys in detention who carefully worked out the details of a general escape of all inmates in the confusion which they thought would follow the fire.

In this plan they were frustrated for the reason that the automatic detector spotted the fire in the isolated clothes closet and in a few moments the fire department and police officers were on hand directing their attention to the specific spot of origin. It was all over in a few moments, no particular damage was caused, there was no panic, no confusion and no casualties.

As a matter of fact, it all happened so quickly and was so effectively handled that the staff workers in the other part of the building were not even disturbed and really didn't know what was happening until it was all over.

In my opinion, the entire cost of maintaining this alarm system, both past and future, has been more than paid for in this single incident.

I extend to your company, and to your representative who negotiated the installation, my heartfelt gratitude.

Yours respectfully,

Wm. G. Long

WGL:BT

THANK YOU, JUDGE LONG...

We are sure that everyone who is directly or indirectly responsible for the safety of life and property will welcome your opinion of the protection A. D. T. Aero Automatic Fire Detecting and Alarm Service affords...every moment of the day and night. Booklet and complete information on this widely endorsed fire detecting system will be sent without obligation. Write us...TODAY.

A. D. T. ELECTRIC PROTECTION SERVICES

Controlled Companies of **AMERICAN DISTRICT TELEGRAPH CO.** *155 Sixth Avenue, New York*
CENTRAL STATION OFFICES IN ALL PRINCIPAL CITIES OF THE UNITED STATES

A·D·T

Electric Protection Services
AGAINST FIRE · BURGLARY · HOLDUP
A NATION-WIDE ORGANIZATION

REPORT OF PERFORMANCE, PUMPERS 1 AND 2

How Received: Phone ☐ Box ☒ Radio

The Dalles Fire Department

Pumper Performance Report No. 30-44

Date 8/6/44 Time 2:02 PM Location 806 East Second Driver JPM

Occupancy Lumber wrhse. & yard Construction frame-stucco-MClad No. Floors 1

Origin of Fire SE rear of building Extent total; spread to next buildings

Cause Unknown Owner Tum a Lum Lumber Co. Address Walla Walla

Occupant(s) Tum a Lum Lumber Co., Exposed building 800 east second Wn occupied by Dalles Soda Works

Pumper No. One Rated Capacity 600 How employed: Draft ___ Hydrant X Line ___ Booster X

Location of Pumper 2nd and Monroe

No. Lines Connected 4 No. Streams Supplied 4 - 5 Hand X Heavy ___

Details on Lines Used:

	Size	Length	Size Nozzle	Eng. Pres.	Discharge	How Employed
1.	2½	200	1"	95#	253	street line
2.	2½	250	1 1/8"	95	275	street line
3.	2½	200	wye 2-1½" tips	95	170	roof lines
4.	1	200	¼" Fogmozl	95	12	skirmisher

Elevation of streams: 1. 0 2. 0 3. 25 4. 25

How Received: Phone ☐ Box ☐ Radio

The Dalles Fire Department

Pumper Performance Report No. 31-44

Date 8/6/44 Time 2:02 PM Location 806 East Second Driver JBP

Occupancy Lumber wrhse & yard Construction frame-stucco-M-Clad Floors 1

Origin of Fire SE rear of building Extent Total; spread to adjacent bldgs.

Cause Unknown Owner Tum a Lum Lumber Co., Address WallaWalla Wn.

Occupant(s) Tum a Lum Lumber Co., Exposed building 800 E. 2nd occupied by Dalles Soda Works

Pumper No. TWO Rated Capacity 600 How employed: Draft ___ Hydrant X Line ___ Booster ___

Location of Pumper 2nd & Taylor

No. Lines Connected 3 No. Streams Supplied 3 Hand X Heavy ___

Details on Lines Used:

	Size	Length	Size Nozzle	Eng. Pres.	Discharge	How Employed
1.	2½	300	1	100	219	street line
2.	2½	300	1 1/8	100	265	street line
3.	1	200	1/4	100	12	skirmisher
4.						

Elevation of streams: 1. 0 2. 0 3. 30 4.

REPORT OF PERFORMANCE, 3-WAY DELUGE SET

How Received: Phone ☐ Box ☐ Radio

The Dalles Fire Department

Pumper Performance Report No. 31-44

Date 8/6/44 Time 2:02 PM Location 806 East 2nd Driver JBP

Occupancy Lumber wrhse & yard Construction frame-stucco-M-Clad No. Floors 1

Origin of Fire SE rear of building Extent total; spread to adjacent bldgs.

Cause Unknown Owner Tum a Lum Lumber Co., Address WallaWalla Wn.

Occupant(s) Tum a Lum Lumber Co.,

Pumper No. Two Rated Capacity 600 How employed: Draft ___ Hydrant X Line ___ Booster ___

Location of Pumper 2nd & Taylor

No. Lines Connected 3 No. Streams Supplied one Hand ___ Heavy Deluge

Details on Lines Used:

	Size	Length	Size Nozzle	Eng. Pres.	Discharge	How Employed
1.	2½	150				
2.	2½	150				
3.	2½	150	1 1/2	60 (NP 46)	452	Deluge (see sketch)
4.						

Elevation of streams: 1. 0 2. 3. 4.

—Over—

Total Time Pump Used: 10 min. From ___ to ___ Gallons Gas Used ___

Gallons Water Used From Booster Tank ___

Discuss key Streams that were not entirely satisfactory or could have been improved:

Stream from Deluge gun very poor due to lack of water in main. Compound gauge reading around 5# with pressure discharge gauge reading of 60#. Smaller tip would have partially corrected situation.

Sketch in Pump and Hose Lay-out below:

See sketch.

Signed Charles Roth Jr.

fire could have been kept from this property.

Another lesson forcibly impressed upon us by this fire was the inadequate size of the water mains in the mercantile section of the city. The Fire Department has long pleaded for a minimum flow to protect any one block downtown of not less than 3,000 G.P.M. The available fire flow did not exceed 1,500 G.P.M. As shown by the pumper performance charts, it was impossible for Engine 2 to operate at full capacity from the six-inch main which also supplied Engine 1. When an attempt was made to use the department's three-way deluge gun through three short lines from Engine 2, only 46 pounds nozzle pressure could be obtained with a total discharge of but 452 gallons. It was found impossible to get the pumper discharge pressure above 60 pounds with a compound gauge reading of around five pounds. After ten minutes of use the gun was shut down. A smaller tip would have given somewhat better performance but the same pumper was able to supply two good hand lines with 100 pounds pressure at the engine. We now have promises of relief from the Water Department by their installing 10-inch mains in place of the 6-inch we now have.

It would perhaps be interesting to know that fires were started six blocks from the main fire by fire-brands carried by the strong wind and heat. The booster truck belonging to the County, fitted with a 75 G.P.M. pump and a 200-gallon water tank came to our rescue and handled these fringe fires. The booster line equipment of our engines played a prominent part by being used to cover shingle roof exposures on the buildings across the street from the main fire, and the roof of a large warehouse at Second and Naylor Streets. Also a small booster truck, normally used by the fire chief as his service car, was used to cover many calls where dry grass and roof spot fires presented a danger.

One of the main lessons we learned from this fire was the fact that a small community fire department has insufficient apparatus and trained men to handle effectively a big fire during conditions of strong wind and low humidity. However, we feel that under the circumstances a good job of fire fighting was turned in, and due to the training school continually operated by this department and invaluable help received by our men directly from your N.F.P.A. VOLUNTEER FIREMEN, much property was saved that would have otherwise been lost.

Looking along Second Street toward front of Tum a Lum Lumber Company warehouse and garage where firemen are attacking the blaze through the main entrance.

"FLAT-TOPS" Need Protection Too

Official U.S. Navy Photo

Carrier Craft are guarded against danger from the air by fighter planes and anti-aircraft guns, from the sea by destroyer escort, from fire on shipboard by National Foam.

National Foam Fire Fighting Equipment has been adopted and is extensively used by the U. S. Navy to help protect the Navy war fleet from serious fires at sea.

Most oil refineries as well as many large industrial plants are protected against hazardous oil and other fires by National Foam Fire Fighting Equipment. Our engineers will gladly consult with you and advise regarding the type of equipment which will most effectively meet your need.

BACK THE ATTACK—*BUY WAR BONDS*

IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for the use of Fire Departments to meet all types of fire fighting requirements. Complete engineering service available.

NATIONAL FOAM SYSTEM, INC.

Specializing in Foam Fire Protection

Packard Building, Philadelphia 2, Pa.

FMC HIGH-PRESSURE FOG PROVED IN ACTUAL FIRE FIGHTING

BUNGALOW FIRES

BASEMENT FIRES

FMC HIGH-PRESSURE FOG HANDLES ALL THESE:

Stores	Oil Fires
Barns	Hotel Fires
Silos	Restaurants
Farm Houses	Night Clubs
Residences	Gas Stations
Boats	Cars and Trucks
Docks	Warehouses
Transformers	Bowling Alleys
Chicken Houses	Tar Kettles
Forest Fires	Sawdust Piles
Grain Fields	Airplanes
Factories	Airport Hangars
Lumber Yards	Gas
Bakeries	Gasoline
Paint Booths	Grass
Blower Systems	and many others
Quenching Tanks	

GASOLINE FIRES

SMALLTOWN HOTEL FIRE

TRUCK COLLISION FIRES

RURAL DWELLING FIRES

BUILDERS OF BEAN HIGH-PRESSURE

PROPERTY ACTUALLY ON FIRE SAVED BY KENT COUNTY FIRE DEPT. $226,985.00

Fire Losses Reduced 'Way Below Average by FMC High-Pressure Fire Trucks in Kent County, Michigan

Look at the record! In the past year the Kent County organization made 201 rural runs with FMC High-Pressure Fog Fire Fighters. Property on fire saved — $226,985.00 — besides the thousands of dollars of exposed property saved. Total losses just 11 — only a fraction of the rural average.

The report shows, beyond the question of a doubt, that a volunteer fire organization — equipped with FMC High-Pressure Fog Fire Fighters — can handle all types of fires.

It's the 600 lb. gun pressure! FMC High Velocity and Finely Atomized Water! Just what you need to *blast, cool* and *smother* flame!

One gallon of this finely-atomized water fog, properly used, has the fire-quenching possibilities of many times that of low-pressure water. But remember — *only* the FMC High-Pressure Fog Fire Fighter packs the needed punch to produce and maintain 800 lbs. pump pressure — 600 lbs. nozzle pressure. No experimenting to be done by you because of unproved new ideas.

Get the facts about this new and revolutionary fire-fighting technique. Get ready to modernize — now!

Insist upon 600 lbs. gun pressure to get the multiple efficiency with small amount of water and no water damage.

STANDARD FMC FOG FIRE FIGHTER. A self-contained fire-fighting unit. Carries its own water supply and complete fire-fighting equipment. Provides two guns of 30 gallons each at 600 lbs. nozzle pressure. These guns proven for years in actual fire fighting.

FMC *Original* **HIGH-PRESSURE FOG FIRE FIGHTER**

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY CORPORATION

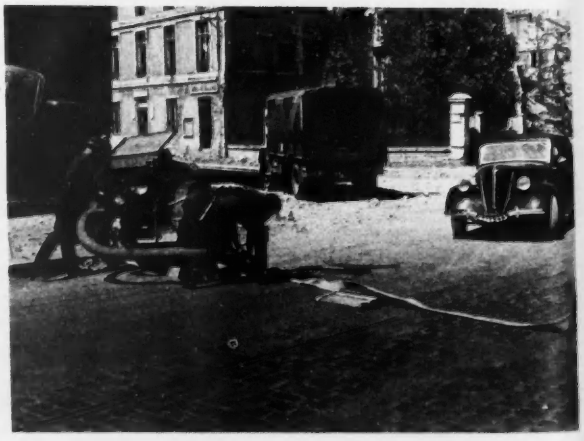
JOHN BEAN MFG. CO., 726 HAZEL ST., LANSING 4, MICH. • BEAN-CUTLER DIVISION, 426 JULIAN ST., SAN JOSE, CALIF.

PUMPS FOR OVER SIXTY YEARS

Army Fire Service in France

THESE official British photographs show how the Army Fire Service operates in France and other liberated countries. The pictures show a British Army fire company at work in the Caen area of Normandy. Such fire crews protect military equipment, billets, barracks and ammunition dumps as well as civilian property in liberated towns and villages. They have the cooperation of the local French fire service and equipment. Civilian fire spotters stationed in the 200 foot high tower of the Caen church report the location of fires by telephone to the fire service The fire company then jumps into its Army lorry or truck, which contains a skid pump in addition to the trailer pump. On arrival, suction is taken from a manhole and sections of hose are run out British fashion, until the fire is reached. The sections of hose are connected by snap couplings.

Note the hose bridge used to permit traffic to pass over the line. Firemen go to work on the blaze in a ruined garage. Note the familiar brands of gasoline and oil formerly dispensed there.



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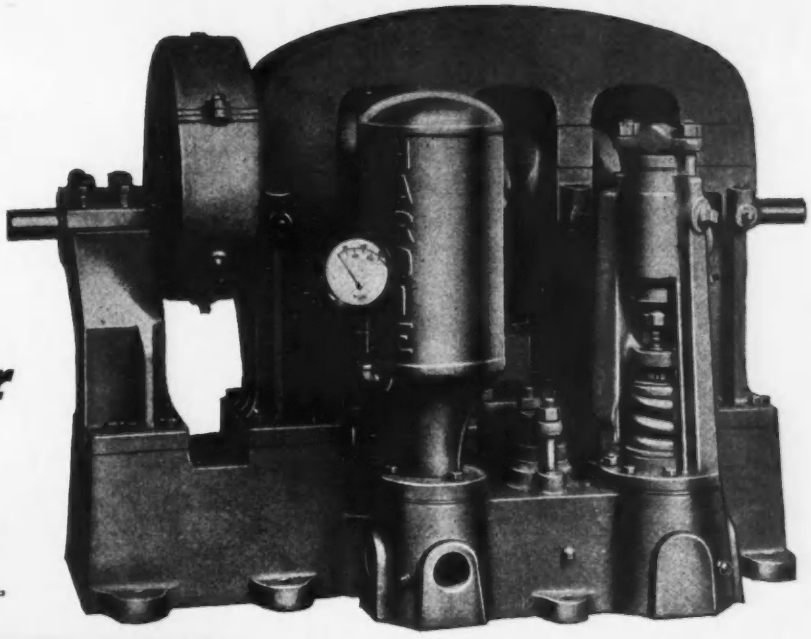
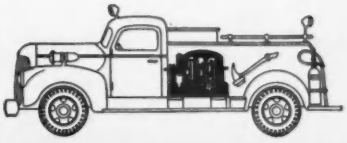
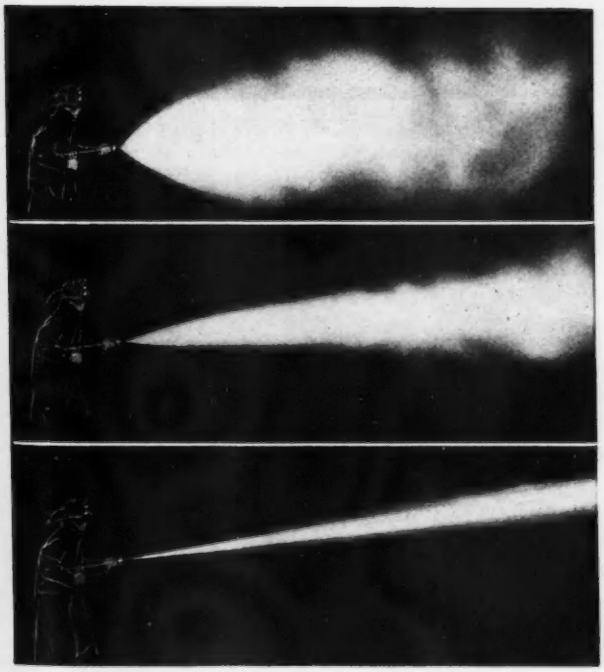
The Pump for Your Fog Fire Fighter







● Because the Hardie is a big, strong, vertical, crankshaft driven pump it gives you unfailing pressure and volume at all times and under all conditions. With a Hardie you get 800 P. S. I. at the nozzle, at slow speed, without excessive wear and tear on the pump—35 gallons per minute at 100 R. P. M., 60 gallons per minute at 130 R. P. M. No need to speed up or overload a Hardie to get required volume and pressure.

The Hardie is designed and built to last. It is the only such pump that is completely lubricated, even the plungers and plunger cups run in a bath of oil. The Hardie is readily assembled into the complete truck regardless of truck model employed. These are reasons why you find a Hardie High Pressure Pump in the Fog Fire Fighters built for the U. S. Army Engineers, and for civilian users by Mack Mfg. Company of Long Island City, N. Y.; General Fire Truck Corporation of Detroit, Michigan; Edgar Road Tank Works of Linden, N. J.; Seagraves Company, Columbus, Ohio; General Pacific Corporation, Los Angeles; Howe Fire Apparatus Co., Anderson, Ind.; Sanford Fire Equipment Co., Syracuse, N. Y.

You can make sure of consistent satisfaction in use regardless of which Fog Fire Fighter you buy when you make sure that it includes a Hardie pump.

THE HARDIE MFG. COMPANY

Hudson, Michigan Los Angeles, Calif. Portland, Oregon

Specify

● The Hardie Fog Gun gives really complete atomization. Single Trigger Control provides convenience and ease in use under all operating conditions—one hand selects any type of fog or stream desired. Regardless of the Fog Fire Fighter you buy you need a Hardie gun.

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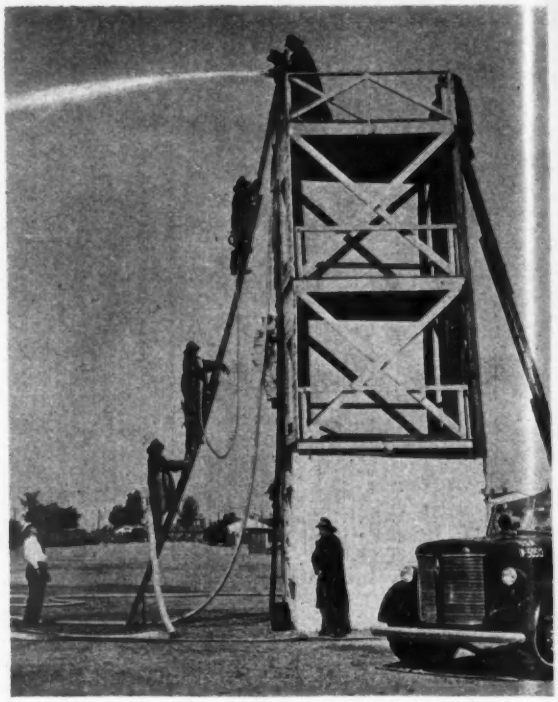
High Pressure PUMPS AND FOG GUNS for Fog Fire Fighters

Fort Custer Fire Chief Rides in Jeep Fire Unit

By Major J. E. Johnson, Public Relations Officer, Army Service Forces Training Center, Fort Custer, Michigan.



FIRE DEPARTMENT TRAINING AT FORT CUSTER. Hose evolution, ladder evolution on a three-story drill tower using two 36-foot ladders with two 2½-inch hose lines employing a six man crew and using a seven hundred fifty G.P.M. engine, under the direction of Assistant Fire Chief, H. P. White.

PROBABLY every man, woman and child in the United States has a jeep high on his list of post-war purchases, but Fire Chief R. E. Moyer, of Fort Custer, Michigan, is far out in front of the parade — he already is using one of the dashing, versatile little buzz-wagons in his daily work.

The Army jeep is famous around the world for its rugged ability to handle almost any kind of job, but Chief Moyer has introduced his to a brand-new vocation — fire fighting.

The head man of the fire department at Fort Custer, home of the Corps of Military Police, has been using the jeep since June, when it was commissioned for the purpose by order of the post commander.

The Fort Custer vehicle is an experimental model and was turned over to the fire department for use as the chief's duty car. Adding to the jeep's already legendary utility, a swivel-mounted turret gun with a 1¾-inch tip was installed on the rear. Also carried are a one-gallon carbon tetrachloride extinguisher and a 15-pound carbon dioxide extinguisher.

The fire-fighting jeep has become enrolled as one of the department's most valuable members. Because of its speed, it's always first to the scene of action, and because of it's four-wheel drive the going never gets too heavy. The accompanying photograph shows the equipment in action.

When settled in the groove, the jeep and its nozzle are capable of delivering 909 gallons of water per minute at 96 pounds nozzle pressure.

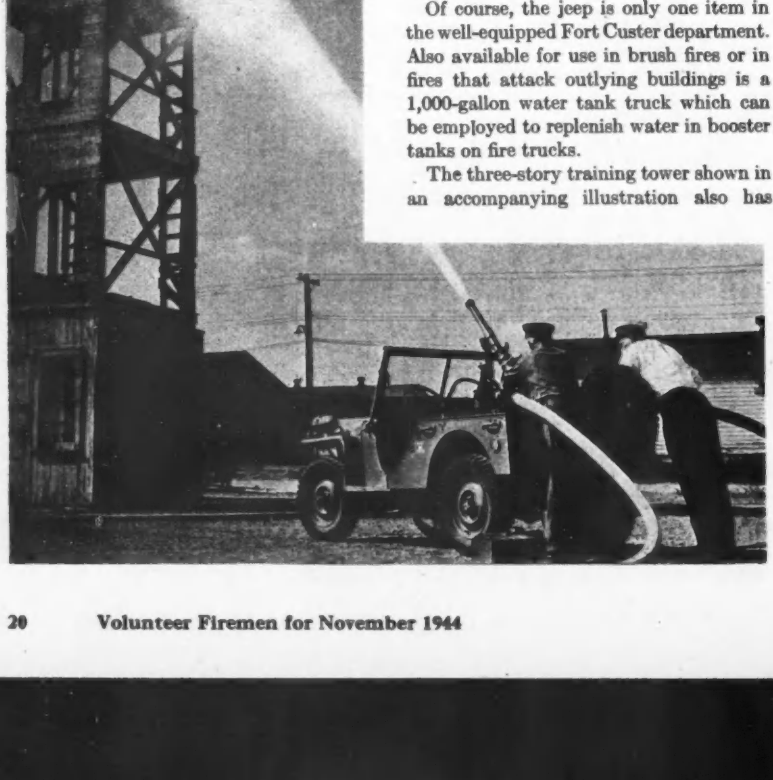
The rakish little car, painted the traditional fire-department red, also has proved very useful in combatting brush and grass fires. For this purpose a small trailer is hitched behind, containing 50 brooms, six axes, six shovels and nine Indian fire pumps.

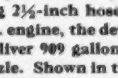
Unquestionably this sort of miniature rig will become a popular piece of auxiliary fire-fighting equipment in the post-war world.

Of course, the jeep is only one item in the well-equipped Fort Custer department. Also available for use in brush fires or in fires that attack outlying buildings is a 1,000-gallon water tank truck which can be employed to replenish water in booster tanks on fire trucks.

The three-story training tower shown in an accompanying illustration also has proven valuable. Under the direction of H. P. White, drillmaster and assistant chief, hundreds of GI fire fighters have been trained on this tower, and many of them now are utilizing their knowledge in scattered outposts on the fighting fronts.

Chief Moyer, whose record as a fireman extends through many years, himself is a former service man. After a year of duty as a volunteer fire fighter in his home town, Kalamazoo, Michigan, he entered the Army and was in the Infantry for two years, including overseas service with the 32nd Division in World War I. Following his honorable discharge, he became associated with the Fort Custer fire department, and is rounding out 26 years of service at the Army post.





JEEP FIRE-FIGHTER Non-standard jeep utilized experimentally by the Fort Custer, Michigan Fire Department as a grass and brush fire fighting vehicle. A high pressure nozzle was developed in the department by using and improvising obsolete appliances. By connecting 2½-inch hose lines from a 750 G.P.M. engine, the department was able to deliver 909 gallons per minute at the nozzle. Shown in the picture are Assistant Chief H. P. White and pumper operator F. R. Campbell who ran this test for Fire Chief R. E. Moyer. Observing the experimental demonstration was Col. I. B. Summers, Chief of Staff, Sixth Service Command, and Lt. Col. J. W. Lucas, Post Fire Marshall, who expressed their satisfaction with the tests.

PLANE TAKE-OFF AND LANDING PRECAUTIONS

U. S. ARMY AIR FORCE headquarters released the following information concerning operations of civilian fire departments in fighting fires in crashed Army aircraft.

"Where landings are made off government installations, AAF personnel will not prohibit local civilian fire departments or other duly qualified personnel from combatting the fire except in such cases where the aircraft is of such nature as to render close approach by unauthorized persons inadvisable for security reasons, as determined by instructions previously given to AAF personnel in possession of the aircraft, or, lacking such instruction, by their own judgment."

GEORGE H. TRYON, III
Captain, Air Corps
Provost Marshal Section

●

FIRE SCHOOL NOTES

St. Paul, Minn. The United Fire Fighters Fire School, August 27th, completed the 1944 season of regional and state sessions in Minnesota. The largest and state-wide school was the Northwest Fire School, May 15th–17th, at St. Paul.

To create new interest between the meetings, a program of evolution contests was started in 1943. At the Northwest School, in May, the winners competed for the grand award. The results were as follows:

Detroit Lakes, first; Anoka, second; and Keewatin, third. The prizes, of course, were war bonds. Total registration at the schools came to 1,589, representing 318 towns.

Gowanda, N. Y. Southwestern (N. Y.) Volunteer Firemen's Convention, August 3rd–4th. Old and new methods of putting out fires were contrasted in the program by Chief Harold R. Becker of the Buffalo Fire Department. The demonstrations were carried out as close to actual conditions as possible.

Eight educational evolutions were staged by volunteer companies. Chief Becker, who arranged for these, also heads the Buffalo Fire Defense Bureau and is in charge of the department's drill tower and training courses.

New officers of the organization were: Dr. Frank Tyler, of Fluvana, to succeed Dexter L. Brown, Cuba, President; J. F. Dunning, Bolivar, James Boser, Allegheny, William Ogolvie, Fredonia, and Frank Lorenz, Angola, vice-presidents; Perry Collins, Belfast, Ernest Sloat, Gowanda, Thomas Bretz, Ripley, and William E. Hull, Hamburg, directors; John Reilly, Dunkirk, sergeant-at-arms; Samuel Beckman, Lake View, assistant sergeant-at-arms; Benson C. Smith, Cuba, was re-elected treasurer, Robert Brown, Holland, was re-elected secretary.

MIDWESTERN
Canvas or Rubber Type
FIREMEN'S COAT

Illustrated at right is Midwestern's No. 101 Fireman's coat, which is highly serviceable and popular in both Volunteer Departments and the larger municipal departments throughout the country. Flexible elastic inner sleeve for wrist to keep out water, cold and sparks; adjustable collar strap, detachable wool lining, Midwestern Safety snaps, two outside pockets, 6-inch storm flap and many other fine Midwestern qualities. See your local Midwestern distributor for prices and literature, or write the factory.

MIDWESTERN MFG. CO.
MACKINAW, ILLINOIS

Barton-American Front Mounted
AMERICAN-MARSH PUMPS
Barton-American Midship

FIRE APPARATUS CENTRIFUGAL PUMPS

PATENTED

FRONT MOUNTED FOR EASE OF OPERATION

AUTOMATIC VACUUM PRIMER

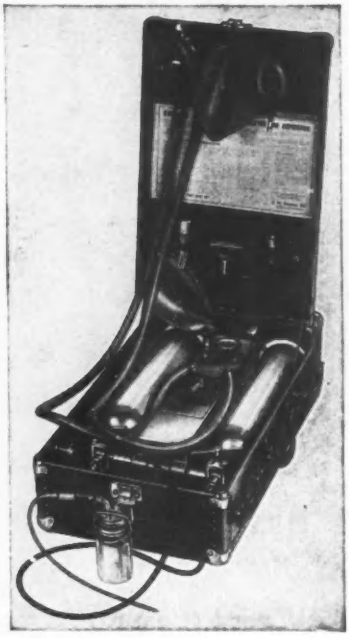
HIGH PRESSURE AT LOW ENGINE SPEED

BOOSTER TANK OPERATION WITH TRUCK IN MOTION

Offered in capacities from 250 to 600 G.P.M.

AMERICAN-MARSH PUMPS, INC., Battle Creek, Michigan
Pumps—and pumps only—since 1873

When Life is at Stake



The EMERSON RESUSCITATOR

is your best insurance against preventable asphyxial death. Don't take chances. Insist on the best! Let us demonstrate to your department.

•

J. H. EMERSON CO.
24 Cottage Park Ave.,
Cambridge, Mass.
Representatives in Principal Cities

District Chief Chas. H. McDonnell at the scene of a recent fire uses his "mike" to report to Fire Alarm Headquarters via the FM two-way Motorola Radiotelephone unit.

BOSTON FIGHTS FIRE WITH RADIOTELEPHONE

THE Fire Department of Boston, Massachusetts, is now using the FM two-way Motorola Radiotelephone System, installed by the Galvin Manufacturing Corporation, Chicago, to obtain better fire control in the Boston area. Through one Central Control Station, W E Y, operating on its own wave length of 37,740 KC, sufficient coverage is obtained to blanket the Boston area.

Thirty-three mobile fire department units are equipped with FM two-way Motorola transmitters and receivers, including Boston's three fireboats and the cars of the District and Deputy Fire Chiefs. The Central Control Station is located in the Boston Fire Alarm Headquarters with the antenna for Station WEY mounted on the Suffolk County Court House, 420 feet above sea level.

Power output is sufficient to cover a radius of eight miles. Instant and staticless two-way communications are maintained with all mobile units. Correct fire locations are quickly checked, the need for more or less fire equipment is immediately reported and, at all times, Fire Alarm Headquarters is in touch with the Deputy or District Chief at the fire scene.

The Motorola FM two-way radiotelephone system has been in operation only a few months — it's one of the first in the U. S. A. — but Superintendent A. L. O'Banion of the Fire Alarm Division has already declared: "Two-way radio has increased the efficiency of the Fire Department tremendously and to be without it is unthinkable."

A view of the central control room in the Boston Fire Alarm Headquarters. The operator is receiving a report of the fire via his hand set attached to the Motorola remote control unit on the desk in the foreground. On the wall is a large map of the Boston area and grouped around the Motorola console are, Chief Operator J. E. Laughlin, Radio Supervisor J. E. McCarron, and Superintendent A. L. O'Banion.

INSURANCE MAN BOOSTS VOLUNTEERS

FIRE insurance agent, Anton A. Schneider, honorary member of the Horicon (Wis.) Volunteer Fire Department, took occasion on Fire Prevention Week to send out a bulletin describing the current activities of the Horicon Volunteers, members of the N.F.P.A.

The "story of the Horicon Volunteer Department" was printed on the back of a nationally used Fire Prevention Week advertisement distributed by the local fire insurance agents throughout the country to their customers. It listed the present membership of the fire department, told of their meetings for drills and business alternately twice a month, described the change from the old-time untrained volunteers to the efficient present-day organization, mentioned the excellent results obtained at a large fire fought by the local department.

The tenor of Mr. Schneider's report on the Horicon Volunteers may be understood by the following paragraphs:

"Fire inspections are made at regular intervals and you will find the inspectors ready, willing and able to answer your questions for betterment of fire hazards on your property. For this inspection at regular intervals the fire insurance companies pay the city the sum of 2% of all fire insurance premiums collected within the city.

"We are fortunate in having such efficient fire fighters. Day or night, always ready to serve. And through the years Chief Kohlman has demonstrated his capability in constantly improving all activities of the department. He has been honored by the county and state organization for his recognized endeavors."

HANDCUFF

TREACHEROUS PETROLEUM FIRES

with **3 TONS** of Carbon Dioxide on Wheels

In most places where petroleum products are processed, piped or stored, there's a job for one or more Cardox Fire Trucks. Armed with 3 tons of zero-cold, fast-acting carbon dioxide . . . powered to reach any part of the plant quickly . . . a Cardox Fire Truck goes into action fast with a tremendous mass discharge of more than 1400 pounds of cold, inert carbon dioxide per minute.

Gives Coverage Heretofore Beyond the Scope of Mobile CO_2 Equipment

With this combination of ample supply of quick fire-extinguishing carbon dioxide, a self-contained, instantly available mobile fire fighting unit, and two 100-ft. hose lines, you are equipped to stop even relatively large fires before they reach disaster proportions. Equally important, *numerous* smaller hazards, requiring proportionately smaller extinguishing applications, can be given *uninterrupted* protection with a single filling of Cardox CO_2.

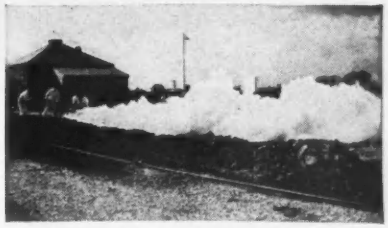
Mobilizes Basic Advantages of Cardox Fire Extinguishing Systems

Pound for pound, carbon dioxide is one of the most effective extinguishing media for oil and gasoline fires. Cardox methods in control and application still further enhance its extinguishing performance.

Cardox CO_2 has uniform characteristics regardless of plant or atmospheric temperatures. High CO_2 "snow" yield provides increased cooling effect (carbon dioxide released at 0°F. yields approximately 45% CO_2 snow with a temperature of minus 110°F.). Greater density of the Cardox discharge enables more effective projection through relatively long distances, indoors or out.

Write on company letterhead for Bulletin 26114.

CARDOX CORPORATION
BELL BUILDING • CHICAGO 1, ILLINOIS
District Offices In
New York, Boston, Washington, Detroit, Cleveland, Atlanta, Pittsburgh, San Francisco, Los Angeles, Seattle



Approximately 165 gallons of gasoline in a pool 16 x 30 feet. Gasoline allowed to burn until fire reached maximum size and intensity. Mass discharge of Cardox CO_2 from 2 Cardox Fire Truck nozzles extinguished fire burning over 480 square feet in 25 seconds

CARDOX
CO_2 FIRE EXTINGUISHING SYSTEMS

"THE TOPS" for Safety & Quality

CAIRNS

WINTER EQUIPMENT

Let us outfit you, from head to foot. Secure the advantages of buying ALL you need from ONE source, with the guarantee of satisfaction of America's oldest firm of firemen's outfitters.

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Helmets, with Cushion Lining and Winter Earlaps
Warm Turnout Coats and Trousers
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LOOSE-LEAF FIRE RECORD BOOKS
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Write for Circulars

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Outfitters to Firemen Since 1836
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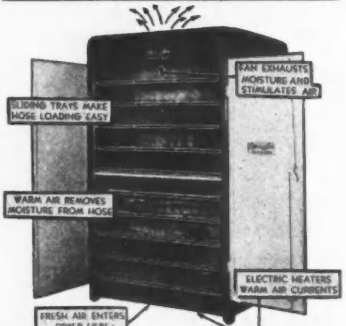
CIRCUL-AIR

FIRE HOSE DRYER

- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
- Air-conditions as it dries


FAN EXHAUSTS MOISTURE AND STIMULATES AIR
SLIDING TRAYS MAKE HOSE LOADING EASY
WARM AIR REMOVES MOISTURE FROM HOSE
ELECTRIC HEATERS WARM AIR CURRENTS
FRESH AIR ENTERS DRYER HERE

THE CIRCUL-AIR CORPORATION
6339 East Palmer Avenue
DETROIT 11, MICHIGAN

ANNISTON, ALABAMA. Fire discovered in the basement of the Alabama Hotel at 6:04 A.M. on September 15th, spread upwards through open stairways, elevator shafts, and hallways, completely engulfing the four-story brick joisted structure. Two lives were lost; a young woman of 17 died of suffocation, and a man of 70 was fatally injured in an accident while being rescued. Eight fire companies, including several from neighboring departments fought the $100,000 fire. The exact cause was not determined.

FIRES SET BY BOYS

A GENERAL alarm fire on the Atlantic City boardwalk (see cover picture) was believed started by small boys. Although classed as unknown, an observer reported that two small boys had been playing with matches under the boardwalk near where the fire is thought to have started. Flames ignited waste paper and spread along the creosoted timbers, damaging the front of the Knickerbocker Hotel and endangering other structures.

Despite the extremely dry weather which preceded the fire on September 6th, the fire department was able to make an excellent stop with twenty hose streams from the boardwalk high pressure system and from pumpers. Loss claims totaled $161,900.

•

BOYS, aged seven and eight, started a $500,000 fire in Piercey Supplies, Ltd., lumber company, Halifax, Nova Scotia, on September 9th. The children went into the shed in which dry lumber was piled and deliberately lighted a fire.

Thirty minutes later the blaze was so intense that firemen could not approach closely. The plant specialized in wood working, dealing in stocks required in the building trade. Practically all of the plant buildings, machinery and materials covering an area of ten acres, were destroyed.

The same boys were found later trying to start a fire in another building. Previously they had damaged a church organ.

Cellar Fire in Lynn, Mass.

SOME fires are of interest to firemen because they are of such a routine nature that the fire department must be prepared to cope with them at any time. Such a fire has been reported by Fire Chief Joseph E. Scanlon, of Lynn, Massachusetts. It occurred in the basement of a food store and involved about 75 per cent of the basement which covered an area of 75 x 85 feet. The fire department controlled the fire with two cellar pipes, two Bresnan nozzles, and other lines which were laid to the seat of the fire.

This was one of many such fires occurring throughout the country almost daily in buildings where structual conditions make it difficult for firemen to get to the seat of the fire. There was only one stairway into the basement and no front or rear windows. Usually in such cases the only stairway is at the very rear of the building making it necessary for the firemen to take a severe licking in any effort to "make the stairs." Chief Scanlon observes, "This building is about fifteen years old and was constructed prior to a local ordinance now in effect in this city wherein provisions must be made for floor openings for purposes of ventilation and cellar pipe operations."

Fire departments are entitled to a large measure of credit when they successfully control such fires.

•

REPRINT OF "FIRE STATION DESIGN"

MR. GEORGE ERNEST ROBINSON'S article on "Fire Station Design" which appeared in the October issue of VOLUNTEER FIREMEN on pages 8 and 9 has been reprinted. Copies are available at ten cents each by writing to the National Fire Protection Association.

INDIANA'S SOLUTION TO FIRE PROBLEM

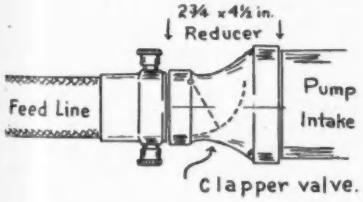
(Continued from page 9)

REMEMBER the barn we left burning? Here are the opinions of the many who contributed answers. Cross bridge, drop off 2½-in. hose line to barn (500 ft.). On arrival at barn unload 24-ft extension ladder and other tools necessary. Break line. Remove from truck 200 ft. 1½-in. hose and ½-in. nozzles, 2½ x 1½ x 1½ Wye, 1-in. nozzle. Return to point A, laying 500 ft. 2½-inch hose. Spot pumper at point A. While hook-up is being made, creek can be dammed by using salvage cover and roof ladder, thereby creating sufficient depth for drafting. Wye 1½-in. hose to last line laid, using one 1½-in. line to protect house, other to supplement first line of 2½-in. hose with 1-in. tip on barn fire. Use double male and female connections where needed. Remember, if barn contains livestock evacuate if possible. Some suggested that pumper be spotted on bridge, but if this were done there might be insufficient amount of hose to lay two lines. With this hook-up you would have approximately 300 G.P.M. with proper pump pressure.

•

TRICKS OF THE TRADE

IT is reported that the British Fire Service has found it convenient to have a clapper valve in the reducing coupling used to supply a pumper through a hose line as is done in pumper relay operations. The use of the clapper valve permits the water



to travel in one direction only — toward the fire. If the feed line should be broken, the water will not run from the pump in the relay. The clapper valve takes the place of the gate valve sometimes employed by American fire departments when supplying a pumper by means of a hose line rather than with the usual suction hose. Where a pump is carried "wet" (filled with water) men connecting the supply line usually get a good soaking when connecting hose to the pump intake. The clapper valve would appear to eliminate this nuisance, if carried connected to one of the pump intakes. Of course, the use of the clapper on a reducer connection would be of no value where a pumper is to be connected to a hydrant by means of the standard large suction.

E & J RESUSCITATORS THE NO. 1 LIFE SAVERS

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The huge number of lives saved by these ingenious automatic breathing machines has rightfully earned for them the reputation of "America's No. 1 Life Savers."

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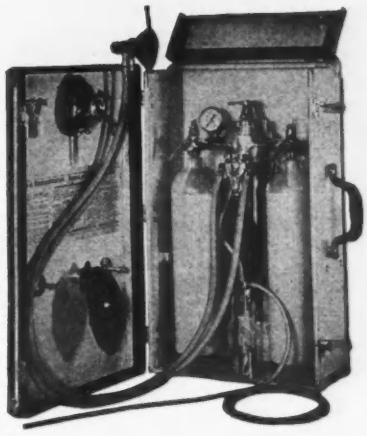

E & Js ARE PACKED FULL OF SUPERIOR LIFE SAVING FEATURES

The features which save lives are all in the E & J. They are all there and have the superior qualities and ingenuity which have made E & J Resuscitators the most widely used instrument for treating desperate cases of Asphyxia. Check with the leading Hospitals, Industrials and Fire Department Rescue Squads and you will find that E & J is the preferred instrument where merit is the deciding factor.

WE INVITE YOUR THOROUGH INVESTIGATION OF THE E & J RESUSCITATOR INHALATOR AND ASPIRATOR.

E & J MANUFACTURING CO.

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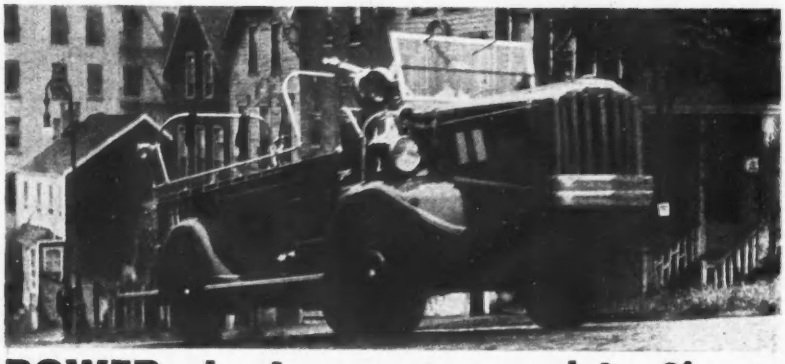
INDIAN

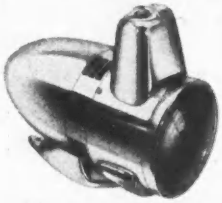
Fire Pumps save Laying Hose on 40% of Your Calls

Use **INDIAN FIRE PUMPS** to make short work of all kinds of inside and outside fires. Save time, money and effort with these famous hand pumps. 5-gal. tank carries on the back enabling operator to move about quickly. Only **clear water** used — no chemicals. Order now or send for catalog.

D. B. SMITH & COMPANY
412 Main Street UTICA, NEW YORK
PACIFIC COAST BRANCH:
Hercules Equipment & Rubber Co.
435 Brannan St. San Francisco, California



POWER—In Apparatus and In Sirens



A large, powerful, deep tone FEDERAL Siren with oscillating light.

Unfailing power, and reserve power, are necessary in fire fighting apparatus *and also in sirens.* That is why FEDERAL Sirens are preferred by so many cities and towns. They are backed by 40 years of sound research and engineering. They are ruggedly constructed to give long and unfailing service, and their tone roar is unusually powerful, giving effective safety signals far ahead of fast moving apparatus.

Write today for Bulletins

FEDERAL ELECTRIC CO., INC.
SIREN HEADQUARTERS
8717 So. State Street Chicago 19, Illinois

Oldtime Volunteer Honored

THE only surviving member of the volunteer fire department of St. Paul, Minnesota, Mr. Christian Hoffman, celebrated his ninety-eighth birthday recently by serving as Chief of St. Paul's paid fire department for the day. Volunteer Hoffman, shown above wearing a white helmet and standing with Fire Chief William Sudeith, served as a volunteer fireman from 1868 to 1877. He belong to the Volunteer Fire Department's association until it was disbanded in 1896.

The volunteer fire department of St. Paul was organized on November 6, 1854 and the paid department took over its duties on October 1, 1877. When Mr. Hoffman was a volunteer firemen water was pumped from cisterns with hand engines to fight St. Paul's fires.

From Hopkins, Minn.

CHIEF JOHN BRECKA, of Hopkins, Minnesota, reports on a $75,000 fire destroying an elevator in that city. The fire occurred shortly after cleaning operations ordered by the Fire Marshal had commenced. It is indicated that housekeeping had not been as good as might be desired, and Chief Brecka observes "Well, guess he figured it would never happen to him. "It did happen and flying sparks started twelve other fires which were taken care of with pump cans and booster lines."

NEW TEXT

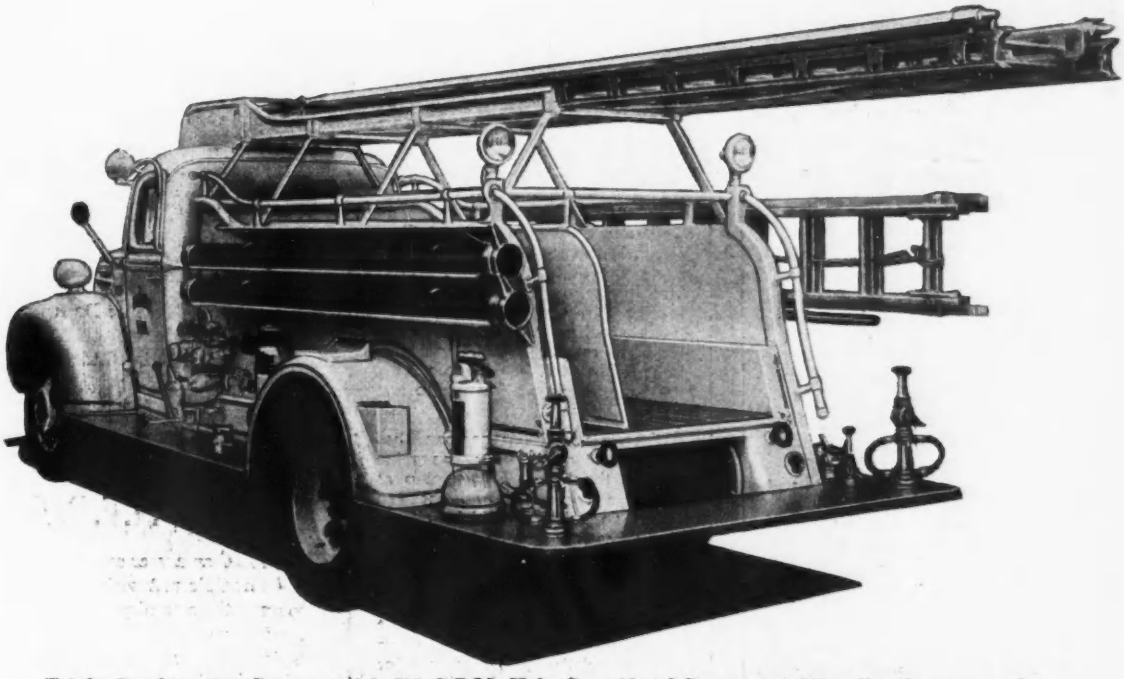
PRACTICAL TRAINING FOR FIREMEN, 145 pp., by Fred Shepperd, with permission of *Fire Engineering.* Published and distributed by the Educational Committee, International Association of Fire Chiefs. Illustrated.

In the March, 1942, issue of *Fire Engineering* appeared the first of a series of articles entitled "Practical Training for Firemen," in question and answer form. This series, continued until June, 1944.

The articles were originally designed to instruct auxiliary firemen in methods of combatting fires started by enemy action. The material is of equal interest in fighting peacetime fires.

FIRE APPARATUS **OREN** CUSTOM BUILT

"THE SOUTH'S ONLY FIRE TRUCK MANUFACTURER"



Triple Combination Pumper with 500 G.P.M. Hale Centrifugal Pump and 200 gallon booster tank. 35-foot aluminum ladder mounted overhead with 24 foot extension and 12-foot roof aluminum ladders mounted on side. All mounted on Ford chassis and used by Salem, West Virginia, delivered October, 1944.

Another Department Modernized with a Custom-Built **OREN**

EACH TRUCK IS BUILT AND DESIGNED TO MEET THE INDIVIDUAL NEEDS OF THE PURCHASING FIRE DEPARTMENT

ARMY E NAVY

OREN FIRE APPARATUS COMPANY

1201-9 West Salem Avenue, Roanoke, Virginia

MASTER★LIGHTS FOR EVERY NEED

The best in colored oscillating lights for your motor equipment.

Type 06 ←
Clears Your Side of Street

Featherweight, Mile Range, Rechargeable Hand Searchlights and Floodlights.

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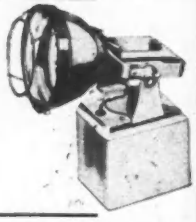
Uses Small Rechargeable Battery Mile Range



Type Dul ←
Emergency Floodlight For Theatres, Road Houses, etc.

Types F5 and Super-6 →
Dry and Rechargeable Units. ¾ Mile Range

Type T ←
Roof mounted Officers Searchlight 360°

Type T&T →
Two-Way. Hand and Red Warning Light

CARPENTER MFG. CO.
"MASTER ★ LIGHT ★ MAKERS"
168 SIDNEY ST., CAMBRIDGE 39, MASS.

N. F. P. A. Volunteer Firemen's Section

MEMBERSHIP REPORT

NOVEMBER brings to the ever-increasing membership in the N.F.P.A. Volunteer Firemen's Section 15 new companies, 6 of the 15 from Pennsylvania. The total number of member departments is now 1,103. 17,088 volunteer firemen are reading their magazine each month.

At every firemen's convention, at fire schools and fire prevention meetings, wherever firemen convene, members are urged to point out the advantages of belonging to the organization.

The following fire companies are welcomed to the Volunteer Firemen's section this month:

Citizens Engine Co. No. 2, Seymour, Conn.
Clio Fire Department, Clio, Mich.
Moorhead Fire Department, Moorhead, Minn.
Two Harbors Volunteer Fire Department, Two Harbors, Minn.
Silver Creek Fire Department, Silver Creek, N. Y.
Perry Fire Department, Perry, Okla.
Albany Fire Department, Albany, Ore.
Concordville Fire Company, Concordville, Pa.
Folcroft Fire Company, No. 1, Folcroft, Pa.
Green Ridge Volunteer Fire Company No. 1, Green Ridge, Pa.
Lenni Heights Fire Company, Lenni Mills, Pa.
North Warren Volunteer Fire Department, North Warren, Pa.
Ridley Park Fire Company No. 1, Ridley Park, Pa.
Connell Volunteer Fire Department, Connell, Wash.
Canadian Industries, Ltd., Windsor, Ontario, Canada

MEMBERSHIP PLAN

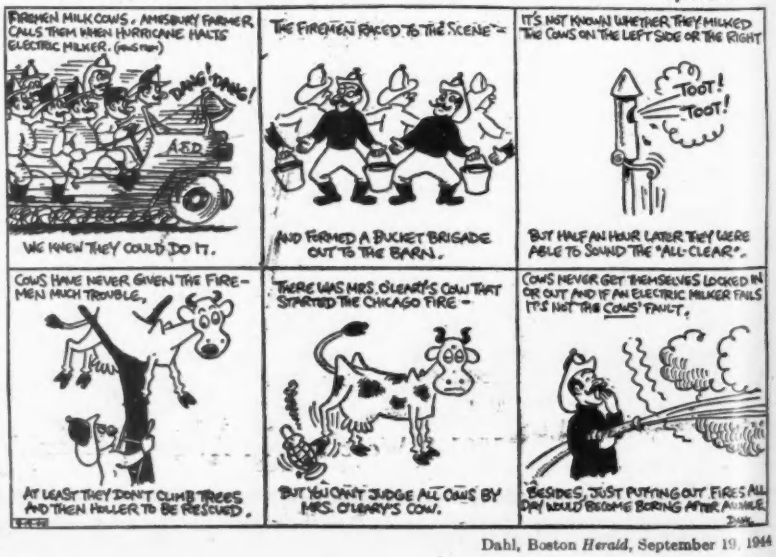
- Through the Volunteer Firemen's Section, fire companies may become members of the National Fire Protection Association. As a member fire company, the department receives at headquarters a set of all regular N.F.P.A. publications. This includes the Quarterly, the monthly News Letter, posters and bulletins.
- Each member fire company has the Volunteer Firemen magazine sent to the homes of ten men at no extra charge beyond the ten dollars annual dues paid by all associate members of the N.F.P.A. All other N.F.P.A. members pay ten dollars without the ten copies of Volunteer Firemen.
- If more than ten firemen want to receive Volunteer Firemen, an additional dollar should be sent for each extra fireman listed to receive the magazine. Individual subscriptions are not accepted from departments not members of the N.F.P.A.

North Jersey Fire Officers Join N.F.P.A.

LESS than a year ago the North Jersey Fire Officers Association was organized to serve the area about Bergen County in New Jersey. The organization has grown rapidly. Secretary Eugene H. Spender of Wyckoff writes that as one of the objectives is to furnish information to fire officers, it was voted at the September meeting to enroll in the N.F.P.A. Volunteer Firemens Section.

FIREMEN MILK COWS

By Dahl


FIREMEN MILK COWS. AMESBURY FARMER CALLS THEM WHEN HURRICANE HALTS ELECTRIC MILKER.
DING! DING!
A.F.D.
WE KNEW THEY COULD DO IT.
THE FIREMEN RACED TO THE SCENE—
AND FORMED A BUCKET BRIGADE OUT TO THE BARN.
IT'S NOT KNOWN WHETHER THEY MILKED THE COWS ON THE LEFT SIDE OR THE RIGHT
TOOT! TOOT!
BUT HALF AN HOUR LATER THEY WERE ABLE TO SOUND THE "ALL-CLEAR".
COWS HAVE NEVER GIVEN THE FIREMEN MUCH TROUBLE,
AT LEAST THEY DON'T CLIMB TREES AND THEN HOLLER TO BE RESCUED.
THERE WAS MRS. O'LEARY'S COW THAT STARTED THE CHICAGO FIRE—
BUT YOU CAN'T JUDGE ALL COWS BY MRS. O'LEARY'S COW.
COWS NEVER GET THEMSELVES LOCKED IN OR OUT AND IF AN ELECTRIC MILKER FAILS IT'S NOT THE COWS' FAULT.
BESIDES, JUST PUTTING OUT FIRES ALL DAY WOULD BECOME BORING AFTER AWHILE.
DAHL

Dahl, Boston *Herald*, September 19, 1944

AKRON

Triple Discharge
STACKED NOZZLE TIPS

Three nozzles in one. Overall length of unit 8¼". Furnished with 2½" Akron "Ball Type" Shut-off Nozzle.

Upper nozzle tip: 2¼" in length, ¾" nozzle discharge.

Center nozzle tip: 2¼" in length, 1" nozzle discharge.

Lower nozzle tip: 5¾" in length, 1⅛" nozzle discharge.

An Akron engineered quality product, easily handled and ruggedly constructed for severe service.

AKRON BRASS MFG. COMPANY, INC.
WOOSTER, OHIO

AKRON BRASS
FIRE FIGHTING EQUIPMENT

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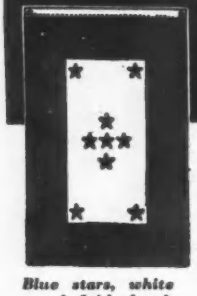
HONOR YOUR SERVICE MEN



Honor your fellow-firemen now serving with the armed forces, by displaying this official

SERVICE FLAG

Blue stars, white panel, field of red. Send for catalogue.

One star for each one in service. Available in any size or material desired. Send for Free illustrated catalogue and price list today.

Permanent
ROLL of HONOR

A permanent plaque, with individual names in silver on gold-bordered permanent name plates. Beautiful walnut plaque with eagle and victory torches. Write for price list today.

U. S. and Allied Flags in all sizes. Write for prices.

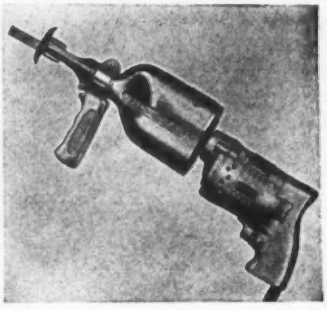
REGALIA MFG. CO.
Dept. 82, Rock Island, Ill.

MANUFACTURERS' ANNOUNCEMENTS

New Saw and File Attachment for Electric Drills

THE Chicago Precision Equipment Company announces a new attachment for electric drills that is said to provide a portable power saw and file. It is sold under the trade-name Saw-Chief.

According to the manufacturer, the new device will rapidly saw into every kind of metal, casting or rod, wood, plastics and other materials, by placing an ordinary hack-saw blade in the holder. It may also be converted into an automatic file by simply inserting a file in the same chuck or



holder. Moreover, where electric power is not available it is claimed that the unit can be efficiently propelled by simply attaching it to an air drill or flexible shaft. Countless industrial uses are claimed for this product, together with the company claim that the Saw-Chief is a valuable aid to fire fighters for cutting away obstructions.

The manufacturer states that the inner mechanism of the Saw-Chief is of balanced ball bearing construction, built for heavy-duty cutting and to withstand hard use. Pistol-grip handle is said to permit the operator to guide and hold the device with ease. The Saw-Chief will attach to any electric drill with a ¼-inch chuck and may be obtained with or without heavy-duty electric drill. For complete details and prices write, Chicago Precision Equipment Company, 919 N. Michigan Ave., Chicago 11, Illinois.

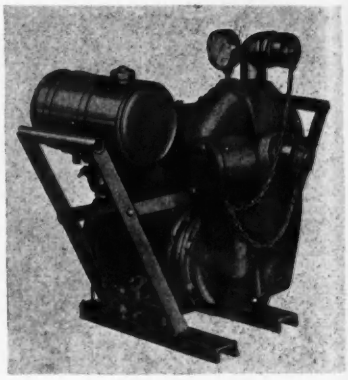
●

duGas Offers Pocket-Size Chart of Extinguisher Characteristics

THE duGas Engineering Corporation of Marinette, Wisconsin will be happy to send you without charge a useful and attractive pocket-size reference card detailing in chart form the characteristics of all types of first aid fire appliances. The information is taken from authoritative sources and is arranged in such a way as to be most useful to members of the fire service. Included also is a table for determining the quantities of calcium chloride necessary to protect water pails and hand pump extinguishers from freezing. Write to the duGas Corporation for your copy.

Handy Self-priming Centrifugal Pump by LaBour

THE LaBour Company of Elkhart, Indiana, who will be remembered by our readers as manufacturers of a lightweight trailer pumper is currently producing a small self-priming centrifugal pump which has many fire service uses. The pump, which is illustrated below, is



designated as Model S.F.I. No. 10. According to the manufacturer, it is self-powered by an air-cooled gasoline engine, weighs only 178 lbs. and pumps 50 g.p.m. at 60 lbs. pressure. It is suitable for dewatering basements, for booster pump service, and will supply a 1½-inch hose line for fire protection of farms and summer homes. For full details write The LaBour Company, Inc., Elkhart, Ind.

●

M. S. A. Awarded Army-Navy "E"

ON September 16th, the Mine Safety Appliances Company of Pittsburgh was awarded the Army-Navy "E" pennant for its distinguished contribution to war production. The award was made by Rear Admiral C. H. Woodward, U.S.N. (ret.), Chief of the Incentive Division of the U. S. Navy. Mine Safety, world's largest commercial producer of approved safety equipment, is one of two Pittsburgh concerns to hold both the Army-Navy "E" and the Maritime Commission "M". Only twenty-five companies in the entire country have been awarded both honors

●

American-Marsh Offers Bulletin

THE American-Marsh Pumps, Inc., of Battle Creek, Michigan, has prepared a data sheet giving particulars about their Type GK100 Dual Purpose Pump. This particular model Barton-American front-mounted pump is said to deliver sufficient water at 600 lbs. pressure to handle two to three 30-g.p.m. fog nozzles, or will deliver 200-g.p.m. through a 2½-inch line using a 1-inch solid stream nozzle. Write to the manufacturer for Temporary Bulletin 8124.

BUY WAR BONDS AND KEEP THEM!

THE CHOICE OF EXPERIENCE

QUICK FACTS

(About Model 75T*, Illustrated)

Overall Length: 23 ft. 6 in.

Weight (no load): 11,600 lbs.

Cylinders: 6

Wheelbase: 174 in.

Turning Radius: 30 ft.

Horsepower: 150

Pump: 750 G. P. M.

Hose Capacity:
1200 ft. 2½ in. hose
400 ft. 1½ in. hose

Booster Tank: 250 gals.

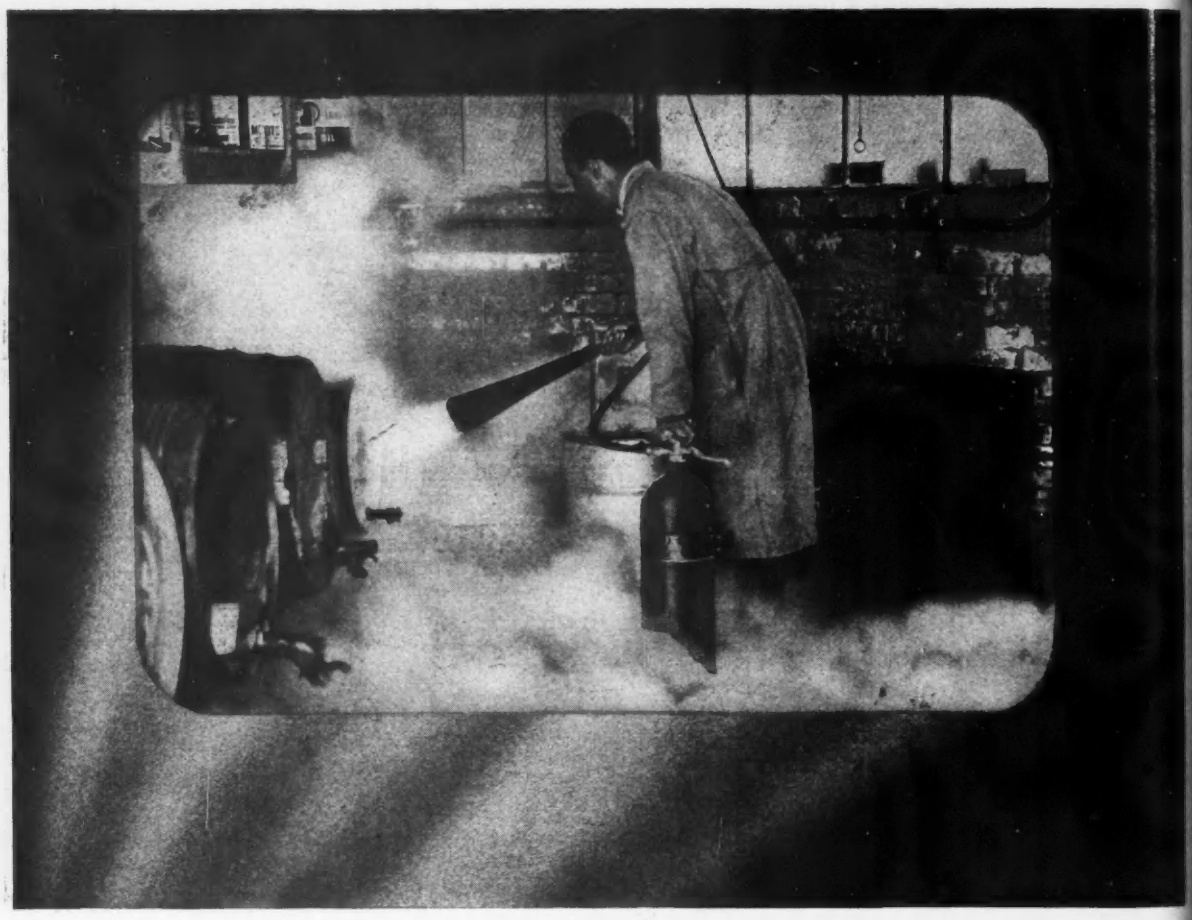
* Subject to W. P. B. Limitation Order L-43, under which certain models may be ordered only for postwar delivery

The Volunteer Fire Department at Floral Park, L. I., N.Y. has an exact and practical knowledge of the fire-fighting needs of the community it serves. It should, for the average member has well over ten years of service to guide him, and several are still active after twenty-five years. Supplementing their practical experience in fighting fires, all members are constantly trained in the use of the most modern methods and equipment.

On three separate occasions, these practical people have found the exact fit for their requirements in Ward La France Pumpers. You can, too, whether yours is a large city or a small town — whether you have formulated an exact set of specifications, or want the seasoned experience of a staff of fire equipment engineering specialists. Because of the completeness of a Ward LaFrance,* the advantages of equipment engineered to the job usually entails little or no additional cost. Write

WARD LaFRANCE TRUCK DIVISION
GREAT AMERICAN INDUSTRIES, INC., ELMIRA, N. Y.

GAI

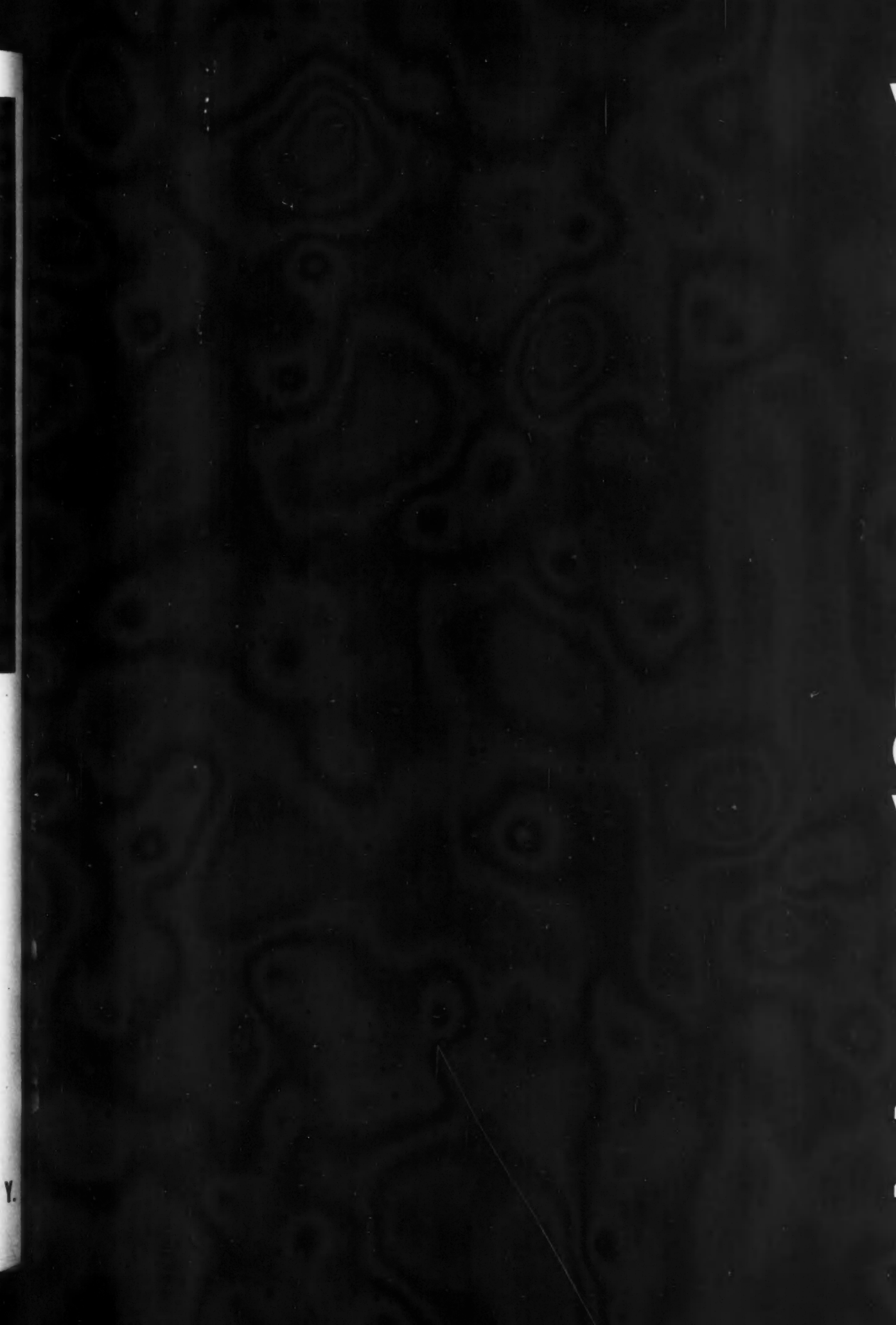


The villain of this film threatens your plant, too!

FIRE, the saboteur, can destroy your plant—even though you've installed the most modern fire-fighting equipment! If your men don't know how to operate it, or if they use the "right" equipment against the wrong fire, disaster can easily result.

Believing that visual instruction is easiest understood, longest remembered, Walter Kidde & Company have produced a color film with sound. It shows exactly what to do when fire strikes. It pictures the different classes of fire, shows how to fight each of them. It's fast-moving, grips the attention of its audience during the twenty minutes of its run.

We'd be glad to show this film to key men at *your* organization. There is no obligation whatever for this service. Just drop a line today to the address below and we'll arrange a showing at your convenience.

WALTER KIDDE & COMPANY, INC., 140 CEDAR STREET, NEW YORK 6, N. Y.

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